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**The Episodes of Currency Crisis in Latin  
American and Asian Economies**

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## Introduction

by Marek Dąbrowski

The decade of the 1990s brought a new experience with financial instability. While earlier currency crises were caused mainly by the evident macroeconomic mismanagement (what gave theoreticians an empirical ground for a construction of the so-called first generation models of currency crises), during the last decade they also happened to economies enjoying a good reputation. This new experience started with the 1992 ERM crisis when the British pound and Italian lira were forced to be devalued. This was particularly surprising in the case of the UK, the country, which went successfully through series of very ambitious economic reforms in the 1980s.

At the end of 1994 the serious currency crisis hit Mexico, and during next few months it spread to other Latin American countries, particularly to Argentina (the so-called Tequila effect). Although Argentina managed to defend its currency board, the sudden outflow of capital and banking crisis caused a one-year recession. Currency crises have not been the new phenomena in the Western Hemisphere where many Latin American countries served through decades as the textbook examples of populist policies and economic mismanagement. However, two main victims of "Tequila" crisis – Mexico and Argentina – represented a pretty successful record of reforming their economies and experienced turbulence seemed to be unjustified, at least at first sight.

Two years later even more unexpected and surprising series of financial crises happened in South East Asia. The Asian Tigers enjoyed a reputation of fast growing, macroeconomically balanced and highly competitive economies, which managed to make a great leap forward from the category of low-income developing countries to middle or even higher-middle income group during life of one generation. However, a more careful analysis as done in this volume could easily specify several serious weaknesses, particularly related to financial and corporate sector. Additionally, as in the case of Mexico, managing the crisis in its early stage was not specially successful and only provoked further devaluation pressure and financial market panic.

The external consequences of the Asian crisis became much more serious than those of the Mexican crisis. While

the later had a regional character only, the former affected the whole global economy and spread through other continents. The Asian crisis started in Thailand in July 1997 and its first round of contagion hit Malaysia, Indonesia and the Philippines in summer 1997. The next wave caused serious turbulence in Hong Kong, the Republic of Korea, and again in Indonesia in the fall of 1997 and beginning of 1998. Singapore and Taiwan were affected to lesser extent. Asian developments also undermined market confidence in other emerging markets, particularly in Russia and Ukraine experiencing the chronic fiscal imbalances. Both countries, after resisting several speculative attacks against their currencies in the end of 1997 and in the first half of 1998, finally entered the full-scale financial crisis in August – September 1998. Following Russia and Ukraine, also other post-Soviet economies experienced forced devaluation and debt crisis. This relates to Moldova, Georgia, Belarus, Kyrgyzstan, Uzbekistan, Kazakhstan, and Tajikistan. Finally, Russian developments triggered eruption of currency crisis in Brazil in early 1999, and some negative contagion effects for other Latin American economies, particularly for Argentina (1999–2000).

In the meantime, cumulated negative consequences of the Asian and Russian crises damaged confidence not only in relation to the so-called emerging markets but also affected the financial markets of developed countries. In the last quarter of 1998 the danger of recession in the US and worldwide pushed the Federal Reserve Board to ease significantly its monetary policy. However, some symptoms of the global slowdown such as a substantial drop in prices of oil and other basic commodities could not be avoided.

The new crisis episodes stimulated both theoretical discussion and large body of empirical analyzes trying to identify the causes of currency crises, their economic and social consequences, methods of preventing them and effective management when a crisis already happened. On the theoretical ground, the new experience brought the so-called second and third generation of currency crises models. Both theoretical and empirical discussion started to put attention on the role of market expectations and multiple equilibria.

In some extreme interpretations the role of the so-called fundamentals, i.e. soundness of economic policy, started to be neglected in favor of the role of collective psychology of financial market players (multiple equilibria, herd behavior, market panic, contagion effect). However, as the detailed analysis of the crisis episodes shows it would be hard to find any convincing case of currency crisis in "innocent" country. Although the role of multiple equilibria cannot be questioned, they can trigger a crisis only when fundamentals are under question. This is convincingly documented in all the country studies presented in this volume.

The same type of conclusions can be derived from discussion on the role of globalization. Although increasing integration of product and financial markets make all countries more mutually dependent and vulnerable to the external shocks, globalization itself cannot be blamed for causing crisis in any particular country.

This volume presents six monographs of currency crisis episodes in two Latin American countries in 1994–1995 (Mexico and Argentina) and four Asian countries in 1997–1998 (Thailand, Malaysia, Indonesia, and Korea). The

Asian part of this volume is supplemented with a short comparative note, commenting these four monographs.

All the studies were prepared under the research project no. OI44/H02/99/17 on "Analysis of Currency Crises in Countries of Asia, Latin America and Central and Eastern Europe: Lessons for Poland and Other Transition Countries", carried out by CASE and financed by the Committee for Scientific Research (KBN) in the years 1999–2001. They were subjects of public presentation and discussion during the seminar in Warsaw organized by CASE on December 21, 2000, under the same research project.

In the all analyzed cases currency crises were accompanied by other signs of financial turbulence such as (public and/or private) debt crisis or banking crisis. However, the limited scope of the conducted analysis forced the research team to concentrate on the currency crises and refer to banking and debt crisis only as the background or consequence of the currency devaluation.

This collection of papers will be followed by another volume presenting episodes of currency crises in the European transition economies.

# Part I.

## The Mexican Peso Crisis 1994–1995

### by Wojciech Paczyński

#### I.1. History of the Crisis

In order to put into context the developments that finally led to the currency crisis of 1994/1995, it is useful to go back as far as mid-1980's. In December 1987, a set of reform policies was initiated aimed at "remaking the Mexican economy" [Lustig, 1992]. The shift in policies was accelerated after 1988 as they gained support from the newly elected president Carlos Salinas de Gortari [DeLong et al., 1996]. The reform package was successful and brought macroeconomic stabilisation. Inflation was reduced from nearly 160% in 1987 to the range of 18% – 30% in 1989–1991 and further down to less than 12% in 1992 and 8.3% in 1993. At the same time economic growth resumed reaching 3.5–4.5% pa. in the period 1989–1992. This result was quite remarkable given the record of failed reform attempts in previous years [Blejer and del Castillo, 1996].

The 1989 foreign debt restructuring left Mexico with relatively low and mostly long-term foreign debt (it accounted for some 19% of GDP at the end of 1993) [Sachs et al., 1995]. Public debt was substantially reduced from 67% of GDP in 1989 to 30% in 1993. From December 1990 onwards, foreigners were allowed to purchase short-term government peso-denominated debt instruments [Gil-Diaz, 1998]. After the restructuring, Mexico once again gained access to international financial markets. Private capital inflows surged to an average of above 6% of GDP in the period 1990–1993 [IMF, 1995].

Economic policies during the period 1990–1993 resulted in the implementation of important structural reforms in various fields. The authorities undertook major domestic financial sector reform and capital account liberalisation [Otker and Pazarbasioglu, 1995] and privatisation. One should also note the improvement of the regulatory framework governing economic activity in many sectors, e.g. in tourism, means of transport, petrochemicals, electricity, telecommunications, etc. [WTO, 1997]. Another important factor was trade liberalisation. This process had started

much earlier. In 1985 Mexico formally joined the General Agreement on Tariffs and Trade (GATT). The next major step was the signing of the North American Free Trade Agreement (NAFTA) in 1992 that stipulated the reduction in non-tariff barriers, liberalisation of investment laws, changes in competition law, etc. The NAFTA finally took effect in January 1994.

The government followed a path of budgetary discipline. The operational budget of the public sector [1] was in surplus in the range of 2–3% of GDP in the early 1990's. Several social pacts were concluded between the government and labour organisations as well as business representatives [Blejer and del Castillo, 1996]. Among the issues agreed upon was the exchange rate policy that became the central anti-inflationary instrument. The question whether the exchange rate policy was appropriate and whether it resulted in an overvaluation of the peso is one of the major issues raised in all analyses of the currency crisis of 1994/1995. This problem will be discussed later.

In 1993, the overall economic situation deteriorated slightly. GDP growth slowed to only 0.6% and private consumption and investment fell in real terms. These developments are mostly attributed to the ongoing restructuring in the manufacturing sector, a tightening of credit conditions by monetary authorities, and a credit squeeze resulting from the deterioration in the quality of banks' loan portfolio [IMF, 1995]. There was also some uncertainty about the approval of NAFTA, which was finally resolved in November.

Despite these setbacks, until 1994 Mexico was widely regarded as an example of a successful economic reform story. Some other views [Dornbusch and Werner, 1994] appeared among economists, but were not picked up nor were they considered important by investors. Suddenly, in the course of 1994, several events took place that turned out to be of considerable importance for Mexico's economic situation.

January witnessed the peasant rebellion in Chiapas – the first one of political events of 1994 that later turned out to have a significant impact on financial stability of the country.

[1] Operational balance is defined as primary balance plus the real portion of the interest paid on public debt.

In February, U.S. interest rates started to rise. In March the candidate in presidential elections Luis D. Colosio was assassinated. This came as a shock to investors and led to severe financial turbulence. The peso exchange rate increased from the bottom of the intervention band [2], where it stayed before, to the ceiling of the band, which constituted a nominal devaluation of ca. 10%. This was accompanied by a decrease in Central Bank reserves of around 9 billion USD. The monetary authorities followed a path of a rather loose monetary policy, boosting credit to the economy in order to prevent interest rate increase and to support weak commercial banks. Also, in the run-up to the presidential elections (the output slowdown could have been another factor) fiscal policy became more expansionary. The actions involved some tax cuts and increases in social spending [IMF, 1995].

In August presidential elections took place that gave a victory to Ernesto Zedillo. His victory, with a higher than expected margin, was considered a positive event from the point of view of foreign investors even though the elections were not carried out in a perfect way. In September, the secretary general of the ruling party was assassinated.

Higher domestic interest rates (around 16% pa. from April until July as opposed to around 10% pa. in the first quarter) and the approval of a 6.75 billion USD short term credit line from NAFTA partners helped to ease the pressures from financial markets. The peso exchange rate stayed near the ceiling of the band, outflow of capital was stopped and reserves remained relatively stable from April until October. After July, interest rates began even to decline.

Another policy action implemented by the authorities in order to increase the credibility of maintaining the exchange rate rule and to prevent increases in interest rates was substituting short term peso-denominated government debt (Cetes) with dollar-indexed (but payable in pesos) short term bonds (Tesobonos). This started after the March events and continued in the following months. The outstanding stock of Tesobonos increased significantly – from 14 billion pesos in March 1994 to 63.6 billion in November. The whole operation within a very short period dramatically changed the composition of short-term debt held by the private sector. While in the first quarter the share of Tesobonos in total Cetes and Tesobonos stock did not exceed 10%, it reached almost 60% in July.

The current account continued to deteriorate in the third quarter of 1994 reaching a record level deficit of 7.9 billion USD. In addition, both the stock of Tesobonos and its share in total short-term debt increased further. Heightened concerns about the sustainability of Mexico's external position led to intensified capital outflows. The reserves declined by 4.7 billion USD between October and Novem-

ber and further 2.5 billion USD to 10 billion USD in mid-December. On 1 December president Zedillo took office and two days later the unrest in Chiapas intensified. Given the current situation, the authorities decided on 20 December to widen the exchange rate band by 15%. This move was accompanied by the announcement of the authorities to support the peso at a rate of around 4 pesos to the U.S. dollar. This announcement was, however, not perceived as credible by investors, who put further pressure on the exchange rate. The Bank of Mexico lost around 4 billion USD within two days and was forced to freely float the peso on 22 December.

Inflation was certainly one of the most important problems that the authorities had to tackle after the devaluation. It jumped to the level of around 8% monthly, but in the second half of the year was reduced to the range 2–4% monthly. The peak of 12-month inflation was recorded in December 1995, when it stood at 51.97%. During the first quarter of 1995, the peso depreciated at a rather high rate reaching 6.82 in the end of March. It then regained some strength fluctuating between 5.8 and 6.4 pesos to the dollar until September, to fall further in the last quarter to 7.64 in the end of December.

The crisis also resulted in a severe recession with GDP falling by 9.2% YoY in the second quarter and respectively by 8.0% and 7.0% in the third and fourth quarter of 1995 [INEGI, 2000]. Industrial production dropped sharply and the unemployment rate increased. In the second part of the year, the first signs of economic recovery became visible. These trends intensified in the last quarter, and since the second quarter of 1996 the Mexican economy returned to a path of fast growth (YoY rate of GDP growth reached 7.2% in the second quarter of 1996). The severity of the 1995 recession was caused by several factors, the most important probably being very high interest rates (lending rate stayed close to 70% in the first half of the year) that were used as an anti-inflationary measure. Other factors included a significant drop in capital inflows, and sudden reduction in credit in the economy. Domestic consumption was further repressed due to debt overhang and possibly substantial negative income and wealth effects resulting from the devaluation [SHCP, 1995]. Gruben et al. (1997) point at sectoral fragmentation of severity of recession and the timing and strength of a rebound.

During 1995, significant adjustment took place in external position of Mexico. Exports surged by 30% in comparison to 1994 and imports contracted by around 9%. As a result, the trade balance improved from a deficit of 18.5 billion USD in 1994 to a surplus of 7 billion in 1995. The current account deficit contracted from nearly 30 billion USD in 1994 to only 1.5 billion USD. A very important achieve-

[2] Since November 1991 Mexico operated a moving band exchange rate system. This is discussed in more detail in section 1.2.4.

ment of the authorities was the elimination of the short-term debt overhang and consequently regaining access to international capital markets. In particular Tesobonos were practically eliminated from the short-term debt stock during 1995. An access to credits from the foreign financial support package played an important role in managing the debt problem. Mexico used close to 12 billion USD of IMF credits in 1995 in addition to around 14 billion of other exceptional financing. A much-improved economic condition allowed Mexico to pay back these credits, in some instances ahead of schedule. Since 1996 Mexico has experienced relatively stable economic growth.

## 1.2. In Search of the Causes of the Crisis: Macroeconomic Factors

### 1.2.1. Fiscal Policy

The role of fiscal policy in the peso crisis has not been emphasised in most of the studies. This is because in the early 1990's Mexico achieved remarkable successes in nearly balancing the public finances. The general public sector deficit declined from around 16% of GDP in 1986 to about 2% in 1993. In 1994 the result was not much worse – the deficit reached around 3.9% of GDP [3]. This fiscal performance was to a large extent due to reduced interest payments during the period. One important observation is that fiscal policy was not tightened, and thus was not used as a tool for dealing with negative shocks of 1994. On the contrary, fiscal policy was rather looser in the election year.

The role of quasi-fiscal operations via development bank credits in 1994 is not very clear. Very soon after the crisis, some authors presented the view that fiscal expansion

through this channel could have played some role in the mix of bad policies that were implemented in 1994 [World Bank, 1995]. Most of the analyses show however, that development banks' credit was not an important factor. Sachs et al. (1995) argue that most of the activities of these banks do not belong in an economically meaningful definition of a budget deficit.

An innovative way of looking at the role of fiscal policy in explaining the crisis is proposed by Kalter and Ribas (1999). They point out the role of the increasing magnitude of government operations, rather than the size of government deficit, in affecting the relative price of traded to non-traded goods (i.e. the real exchange rate), the financial condition of the traded sector, and interest rates. They argue that the significant rise in government non-oil revenue collections measured in U.S. dollars or in terms of traded goods prices has had an effect on the tradable sector analogous to that of a surge in export commodity prices (Dutch disease). The resulting deterioration of finances of traded goods sector was then passed to commercial banks' finances. While the arguments used by Kalter and Ribas (1999) are interesting and certainly add another dimension to the understanding of fundamental reasons behind the crisis, they do not provide an explanation for sudden events of December 1994.

### 1.2.2. Savings and Investment Balance

In the period 1988–1994 Mexico witnessed a noticeable growth in investment and a decline in savings (see Table 1-2). Overall investment grew from 20.4% of GDP in 1988 to 23.6% in 1994. Interestingly, public sector investments remained relatively stable and were even reduced, while the growth was due to the private invest-

Table 1-1. Public sector balances 1986–1994 (in percent of GDP)

	Financial balance	Primary balance	Operational balance
1986	-16.1	3.7	-2.4
1990	-3.3	7.6	1.8
1991	-1.5	5.3	2.9
1992	0.5	6.6	2.9
1993	-2.1	3.6	2.1
1994	-3.9	2.3	0.5

Notes: Financial Balance includes all public sector borrowing requirements.

Primary Balance is defined as Financial Balance less interest paid on public debt.

Operational Balance is defined as Primary Balance plus the real portion of the interest paid on public debt.

Other sources provide slightly different data.

Source: Sachs et al. (1995).

[3] There is no consensus about the size of public sector surplus or deficit. Different authors use distinct measures. For example, Kalter and Ribas (1999) estimate the overall public sector deficit close to 1% in 1992–1993 and close to 2.5% in 1994.

Table 1-2. Saving and investment levels 1988–1994 (in percent of GDP)

	Saving			Investment			Net saving		Current account
	Public	Private	Total	Public	Private	Total	Public	Private	
1988	1.4	17.6	<b>19</b>	5	15.4	<b>20.4</b>	-3.6	2.2	<b>-1.4</b>
1989	3.1	15.6	<b>18.7</b>	4.8	16.5	<b>21.3</b>	-1.7	-0.9	<b>-2.6</b>
1990	6.7	12.5	<b>19.2</b>	4.9	17	<b>21.9</b>	1.8	-4.5	<b>-2.7</b>
1991	7.5	10.3	<b>17.8</b>	4.6	17.8	<b>22.4</b>	2.9	-7.5	<b>-4.6</b>
1992	7.1	9.5	<b>16.6</b>	4.2	19.1	<b>23.3</b>	2.9	-9.6	<b>-6.7</b>
1993	6.3	8.9	<b>15.2</b>	4.2	17.8	<b>22</b>	2.1	-8.9	<b>-6.8</b>
1994	5	10.7	<b>15.7</b>	4.5	19.1	<b>23.6</b>	0.5	-8.4	<b>-7.9</b>

Source: Sachs et al. (1995)

ment boom. This was accompanied by an even more apparent reduction in propensity to save. Total savings fell from 19% of GDP in 1988 to only 15.2% of GDP in 1993 and 15.7% in 1994. Private savings declined from 17.6% of GDP in 1988 to 8.9% in 1993 before starting to grow, albeit modestly, in 1994. This leads to the conclusion that the deterioration in the current account – the deficit reached 6.8% of GDP in 1993 and 7.9% in 1994 – was primarily caused by the level of private savings not matching the level of private investment [4].

### 1.2.3. Private and Public Debt

The role of Mexico's indebtedness in provoking the financial crisis deserves a more detailed analysis. First, it should be noted that Mexico had a history of problems associated with its foreign debt, including the crisis of 1982. In contrast to the past, the beginning of the 1990's was marked by a very significant improvement in this sphere. Public debt was reduced from some 64% of GDP in 1989 to 35% of GDP in 1993. Of this, 23% of GDP was foreign debt that as a result of 1989 restructuring had a favourable maturity structure (long term liabilities prevailed). Domestic debt accounted for 12% of GDP [IMF, 1995] [5]. These numbers were low in comparison to other developing and developed countries. Moreover, standard debt indicators such as the ratio of total debt to GDP or to exports or the ratio of interests on debt to GDP or exports were improving in the early 90's. This clearly shows that the overall level of public debt did not play a big role in the loss of investors' confidence in 1994.

What did matter, however, was the maturity and currency structure of the domestic debt and the level of private borrowing. From 1989 to 1992, net credit to the private sector from the financial system expanded at an average annual rate of 66% in nominal terms, offsetting the decline in borrowing of the public sector resulting from the substantially improved fiscal position [IMF, 1995]. In 1993 net domestic credit of the banking system continued to expand at an annual rate of around 20%. Interestingly, this decomposes into a substantial reduction in credit to the public sector (around 30%) and an expansion of credit to the private sector of the same magnitude (see table 1-3). This trend continued through the first half of 1994, while in the second half public sector borrowing also started to rise, bringing the 12-month rate of growth of net domestic credit from the banking system to around 30%. It is also worth noting the faster expansion of credit to private sector from development banks than from commercial banks in 1994. Other interesting statistics are presented in Gil-Diaz (1998) [6] which indicate that in the period from December 1988 to November 1994 credit card liabilities rose at an average rate of 31% per year, direct credit for consumer durables rose at a yearly rate of 67% and mortgage loans at an annual rate of 47%, all in real terms.

The above numbers, along with numbers cited in section 1.2.2 with regard to private investment and savings, show that it was mostly private sector borrowing that brought the current account deficit to the levels it reached in 1993 and 1994 (more than 6% of GDP). Such a level of the deficit seems quite high but was nevertheless easily financed in 1993, and from that perspective there were

[4] Sources differ in calculations of the current account deficit in relation to GDP. For example Gurrha (2000) citing official Mexican data estimates the deficit to account for 5.8% of GDP in 1993 and 7.0% in 1994.

[5] Also in this case different numbers are cited by other authors. For example Sachs et al. (1995) estimate the public debt at 67% of GDP in 1989 and 30% in 1993. According to this source this last number can be broken down to 19% of GDP of foreign debt and 11% of domestic debt. The average maturity of domestic debt was around 200 days.

[6] The statistics were provided to the author (a former Vice Chancellor of the Bank of Mexico) by the Economic Research Department of Bank of Mexico.

Table I-3. Monetary sector – the expansion of credit 1990–1994 (twelve-month rates of growth, end of period)

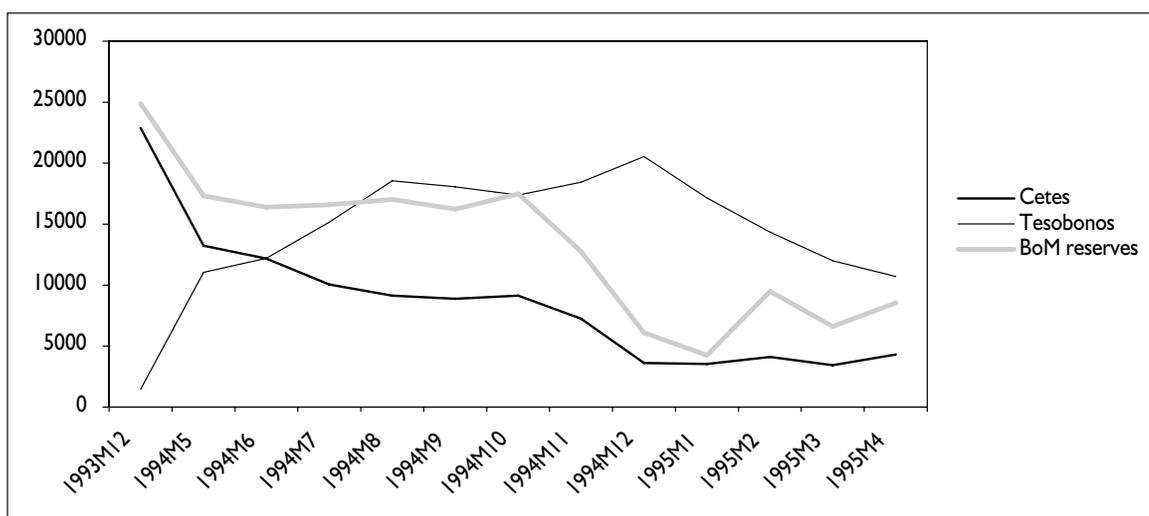
	1990	1991	1992	1993	1994
Broad money (M4)	46.4	30.9	19.9	25.0	17.1
Net domestic assets of the financial system	22.6	31.6	20.8	15.5	32.0
Net credit to public sector	3.9	-1.6	-31.7	-46.2	25.3
Net credit to private sector	63.2	53.3	57.1	26.4	31.9
Net domestic credit of commercial banks	49.4	48.6	20.9	24.3	...
Net domestic credit of development banks	-10.0	18.8	23.4	47.4	42.2

Source: IMF (1995).

reasons to believe that this could have happened again in 1994. Firstly, one should note that large capital inflows that resulted from markedly improved perception of the economy by foreign investors and that were possible thanks to capital account liberalisation of 1990 were transferred to a significant increase of short term debt. The inflow was sterilised by issuing short-term government debt instruments (Cetes). As a result short-term indebtedness increased significantly with short term debt to total debt stock ratio rising from 21.9 in 1992 to 28.1 in 1994 [World Bank, 2000]. At the end of 1993 the value of Cetes alone reached 22.9 billion USD, i.e. it was very close to net international reserves of the Bank of Mexico (24.9 billion USD) (see Figure I-1). This placed Mexico in a potentially vulnerable position. On top of that, during 1994 the currency structure of short-term debt underwent a substantial change.

After the March assassination and resulting turbulence in the financial markets, the authorities started exchanging peso-denominated bonds (Cetes) with dollar-indexed debt instruments (Tesobonos). This action was aimed at upholding the investors confidence in the exchange rate regime after the peso depreciated by around 10% reaching the ceiling of the intervention band. It was also used as a tool to avoid further increases in interest rates. Werner (1996) estimates that the substitution from Cetes to Tesobonos was equivalent to an interest rates increase of around 8 to 11 percentage points. He argues that accounting for the currency composition of government debt gives more appropriate measures of currency risk premium in the period before the crisis. The scale of substitution from Cetes to Tesobonos was huge. By June 1994, the amount of Tesobonos and Cetes were roughly equal and in December the amount of Tesobonos was around 5.5 times that of

Figure I-1. The composition of short term government debt (USD million)

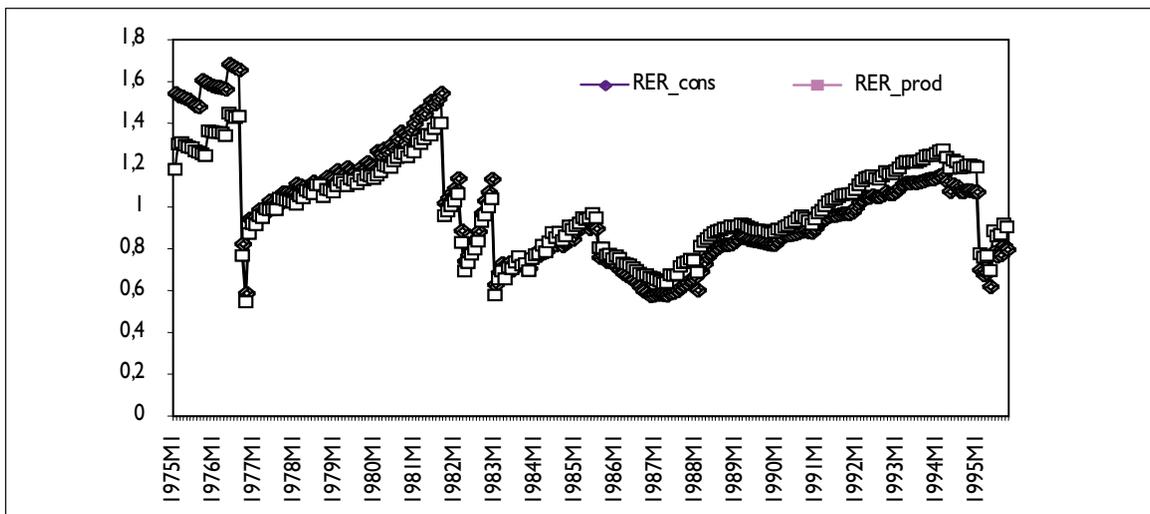


Notes: Cetes – three month peso-denominated government debt.

Tesobonos – three month dollar-indexed government debt.

Source: own calculations based on IMF, IFS and World Bank (1995) data.

Figure I-2. Real exchange rate movements 1975–1995



Note: Rer\_cons index is obtained using consumer price indexes in Mexico and the U.S., while Rer\_prod is based on producer price indexes; I is an average value of respective indexes over the period.

Source: Author's calculation based on IMF, IFS data

Cetes. Another way to look at the process is to note that around 15 billion USD of private sector holdings in Cetes were swapped for Tesobonos from March till November.

After the devaluation on 20 December, government borrowing was clearly not sustainable. Investors rushed to withdraw their investments and the government found itself unable to cover short term liabilities that led to a panic and the severe currency devaluation. Eventually, only a huge international support package helped to solve the problem. The shift to dollar denominated short-term public debt certainly contributed to the whole set of factors that provoked the crisis. Interestingly, however, risks associated with rapidly growing short-term dollar indexed debt of Mexico seem to have been underestimated, not to say unnoticed, by the international financial community until the devaluation took place. Sachs et al. (1996) present puzzling statistics on international press coverage of Mexico. The issue of Tesobonos was completely ignored by leading international financial papers with only one article mentioning it being published before December 1994 [7]. The problem of accumulated dollar denominated debt accompanied by depleted foreign reserves constituted an important factor in provoking the panic after the announcement of devaluation on 20 December (Sachs et al., 1995, see also section 1.2.5).

#### 1.2.4. Exchange Rate Policy

In the last decades, Mexico altered its exchange rate policy several times and had a history of several episodes of significant devaluations (e.g. 1976, 1982, and 1985). A fixed exchange rate regime that was introduced in 1988 and later corrected on several occasions played a major role in the anti-inflationary strategy of Mexican authorities. From January 1989 until November 1991, a preannounced crawling peg was in operation (with two reductions of the rate of crawl), and from 11 November 1991 an exchange rate intervention band was used with several changes in the rate of crawl of both upper and lower bands. From 1991 until November 1994, the peso steadily and very slowly depreciated in nominal terms. Yet since the level of inflation was much higher than in the U.S., in real terms the peso appreciated by around 15% if consumer price indexes for Mexico and the U.S. are applied or close to 21% if the comparison is based on wholesale price indexes [8].

The question whether the peso was overvalued at that time brought much attention, especially after the December crisis. One should note, however, that there were voices pointing to an overvaluation of the peso and the possible risks that it posed already in early 1994, the best known being Dornbusch and Werner (1994). In most analyses of the

[7] The authors surveyed the Financial Times, the New York Times, and the Wall Street Journal. The number of such articles jumped to 6 in December 1994 and 46 in January 1995.

[8] In a new study Dabos and Juan-Ramon (2000) estimate the model of the real exchange rate in Mexico. Their results suggest that on the eve of the crisis the peso was overvalued by a number in the range of 12 to 25 percent. This result is consistent with the majority of previous studies.

crisis that appeared after 1994, the view that the peso has indeed been overvalued seems to gain rather strong support [World Bank, 1995]. The standard reasoning points to the fact that the exchange rate-based stabilisation under capital mobility has led to a large current account deficit and real appreciation of the peso that at some point became unsustainable and the correction of real exchange rate was needed [IMF, 1995]. It is, however, not clear whether this has played an important role in determining the crisis. In particular, some authors concluded that the peso overvaluation is not at all useful in explaining the crisis [Gil-Diaz, 1998]. Also, as Sachs et al. (1996) point out, significant reduction in inflation in 1994 and 10% nominal depreciation from March to April 1994 certainly diminished the overvaluation problem.

On 20 December, the upper limit of the intervention corridor was widened by 15%, but at that time the devaluation of that scale was widely regarded as insufficient. On the other hand, it undermined the confidence in the will and ability of the Mexican authorities to uphold the announced exchange rate policy. The continued pressure and a lack of possibilities to support the peso forced the authorities to let the peso flow freely on 22 December. In later months, the peso depreciated sharply hitting the rate of 6.82 pesos to the dollar in the end of March 1995, i.e. nearly twice as much as before 20 December. It recovered slightly in the next few months.

### 1.2.5. Monetary Policy

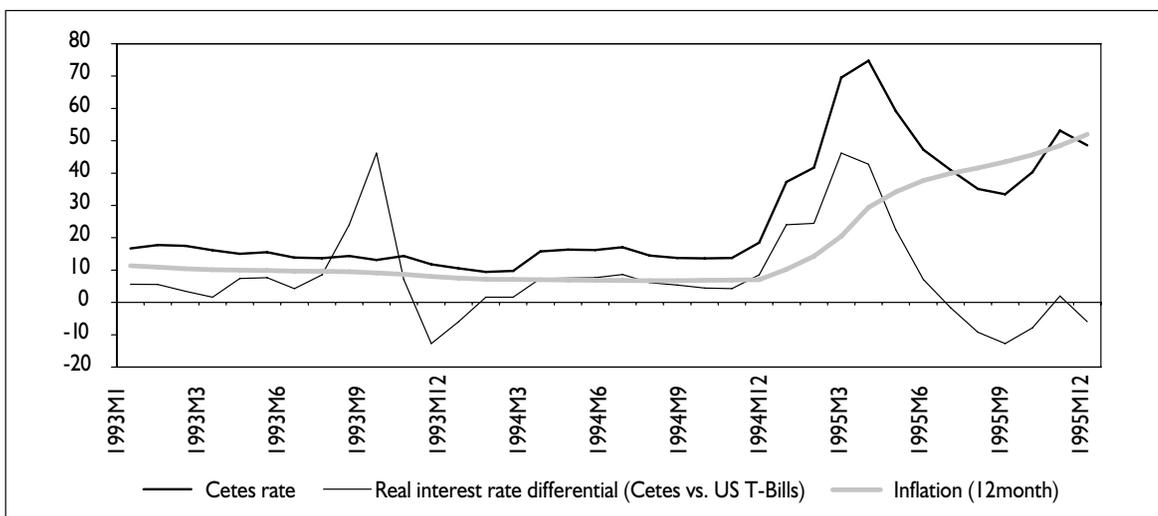
During the whole of 1993, disinflation continued and interest rates on short term government papers were on a

downward trend. Interest rates declined from around 17% at the beginning of 1993 to 13–14% in November. The approval of NAFTA in that month allowed for a further significant decrease below 10% in February and March 1994. Political turbulence at the end of March resulted in a surge in interest rates that stayed in the 16%–17% range from April until July. From August onwards, interest rates started to fall again and remained stable at around 13.7% from September until November. Exactly the same pattern was followed by the real interest rates differential (i.e. real rate on Mexican papers compared to real rates on American Treasury bills).

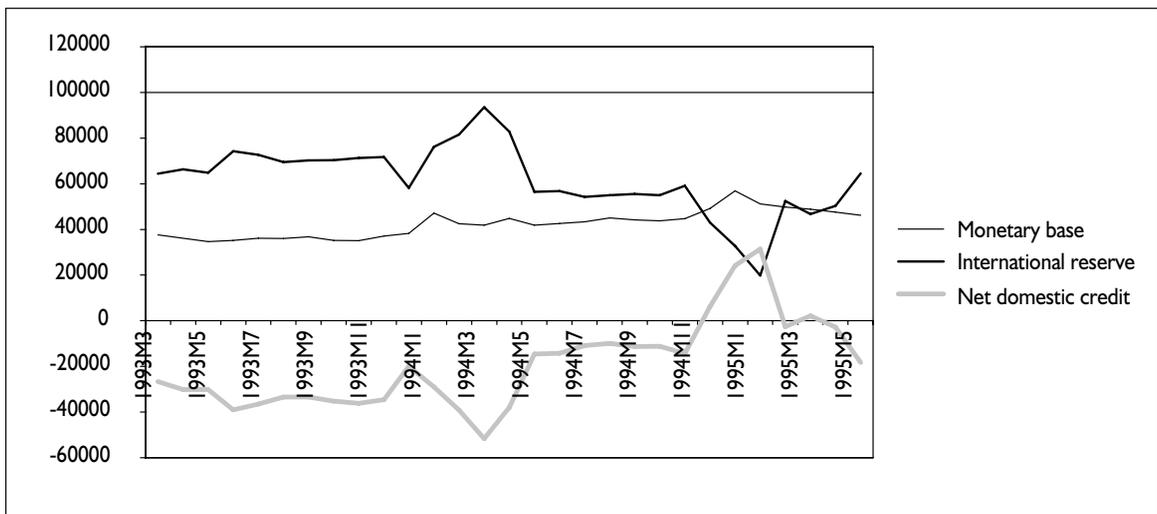
As Sachs et al. (1996) point out, such a behaviour of interest rates is markedly different from the one predicted by standard first generation crisis models (e.g. Krugman, 1979). This fact is presented as a main argument against the hypothesis that a speculative attack can be a mechanism used to describe the peso crisis. This point is perhaps somewhat weakened when one takes into account interest rates differential adjusted using measures of currency structure of short term public debt [Werner, 1996]. One of the primary motives for substituting Cetes with Tesobonos was to avoid an adjustment via higher interest rates. This policy proved to be rather short sighted as dollar-indexed short-term debt very quickly reached high levels (see section 1.2.3).

The policy of keeping interest rates low had immediate implications for the level of foreign exchange reserves in 1994. This basic yet important point is stressed by Sachs et al. (1995). Until March 1994, the Mexican private sector was selling securities to foreign investors at a rate that can roughly be estimated at around 20 billion USD yearly. This capital inflow financed

Figure 1-3. Interest rates and inflation 1993–1995



Note: all numbers are percent per annum.  
Source: author's calculations based on IMF, IFS data.

**Figure 1-4. Components of monetary base January 1993 – May 1995 (millions of pesos)**

Source: World Bank (1995)

the current account deficit. After March, interest rates demanded by foreign investors increased significantly yet the monetary authorities responded by trying to fix interest rates using credit expansion. The Central Bank simply offered to buy securities accepting low interest rates. This shows up in the Bank of Mexico accounts as domestic credit expansion to both private sector (mainly banks) and the government (mainly Tesobonos purchased from private investors). Such a behaviour did not provide any incentive to reduce the current account deficit and left no other way but to finance it from foreign reserves. What actually happened was that credits (issued in pesos) were converted into dollars to cover the trade deficit at the fixed exchange rate.

Another way of looking at the mechanism is to note the identity decomposing the change in monetary base into the change of domestic credit and the change in reserves. With the monetary base being relatively constant, the expansion of domestic credit was mirrored by declining reserves (see Figure 1-4).

The most common way of defending the policies of the central bank was to say that without providing credit, interest rates would have risen to levels that would seriously affect the economy, and that the Central Bank was forced to act as a lender of last resort to commercial banks [Sachs et al., 1995; Gil-Díaz, 1998]. Carstens and Werner (1999) argue that, "in the case of Mexico during 1994 monetary policy had to defend the predetermined exchange rate, without affecting a weak banking system". Sachs et al. (1995) recommend, that the credit should be expanded moderately, while indeed the exchange rate should be allowed to depreciate. Still, some interest rates hike with all the adverse effects on economic growth seems to had

been necessary anyway (and such a solution would probably be less painful than the adjustment through a crisis).

### 1.2.6. Foreign trade

Mexico experienced a substantial increase in private spending and trade deficits in 1988–1994. One should note that this kind of experience is similar to the one of many other countries that have undertaken exchange rate based stabilisation programs. The trade deficit almost reached 16 billion USD in 1992, was somewhat reduced in 1993 and again rose to 18.4 billion USD in 1994. A deficit of that magnitude did not reflect weak performance of Mexican exports, which were growing at an average annual rate of above 10% between 1990 and 1994. The prospects for Mexican exports seemed to be very promising, especially after the final approval of the NAFTA in November 1993. One should note at that point that the U.S. was by far the most important trading partner, accounting for more than 81% of exports and more than 71% of Mexican imports already in 1992. These shares have increased yet further in later years.

### 1.2.7. Balance of Payments

The current account balance that was in surplus in 1987 soon turned to negative numbers. The size of deficits increased significantly after 1990. In 1991 it accounted for 4.6% of GDP, in 1992 and 1993 stayed at about 6.5% to widen still further to around 8% of GDP in 1994. As shown in section 2.2 this was primarily caused by private sector investment exceeding its savings rather than imprudent fiscal poli-

cies. The deficit was financed by high inflows of foreign capital to the private sector, majority of which was portfolio investment. With capital inflows higher than the level of the current account deficit central bank's foreign currency reserves were gradually increasing from 6 billion USD in 1988 to 25.4 billion USD in 1993. In order to sterilise capital inflows the government issued large amounts of short-term peso- denominated treasury bills (Cetes) (see also section 1.2.3).

The situation changed markedly after March 1994. The inflow of foreign capital fell abruptly. The capital account position from the balance of payment deteriorated from 11.8 billion USD in the first quarter to 3.7 billion in the second quarter. In turn, central bank's reserves fell from 29.3 billion USD at the end of February to 17.7 billion at the end of April, i.e. by 11.6 billion USD. The reserves remained rather stable at that level until November, when the next wave of reserve erosion took place. At the end of November they stayed at only 12.9 billion USD. This provoked the final speculative attack against the peso.

### 1.3. In Search for the Causes of the Crisis: Microeconomic Factors

In the years leading to the crisis major positive changes took place in the real sector environment. The economic program that was implemented starting in the late 1980s included several structural reforms. Substantial deregulation and privatisation took place along with trade liberalisation [Martinez, 1998]. The Mexican privatisation program was one of the most comprehensive in the world in terms of both the size and the number of companies privatised [La Porta and Lopez-de-Silanes, 1999]. Privatisation was most intensive in the period 1989–1992 and by 1992 the government had withdrawn from most sectors of the economy with the exception of oil, petrochemicals and the provision of key infrastructure services. This constituted a major change to the situation from the early 1980s when the state was intensely involved in the economy through more than a thousand state-owned enterprises.

The financial system, that until late 1988 was highly regulated, also underwent a quick and substantial liberalisation [Gelos and Werner, 1999]. All these factors contributed to a major improvement in perceived prospects of the Mexican economy and consequently, given the situation in world financial markets, resulted in large capital inflows to Mexico in the period 1990–1993. There is no general consensus concerning the role of financial and real sector weaknesses in the peso crisis. Also, this channel is not very often thoroughly analysed, perhaps due to limited access to relevant data.

It is clear that Mexico experienced a rapid expansion of credit to the private sector (see section 1.2.3). It is likely

that this was associated with poor screening of borrowers, and consequently, declining quality of credit [cf. Edwards, 1999]. Such a process is not unique to Mexico. Lidgren et al. (1996) highlight the problem of a lack of necessary credit evaluation skills in formerly regulated banks that are therefore unable to use newly available resources more efficiently. Also, the notion that banks problems often precedes the financial crisis (devaluation) has strong support from other cross-country analyses [e.g. Kaminsky and Reinhart, 1996; Lidgren et al., 1996]. Gil-Diaz (1998) points to several causes of the rapid debt increase, the speed of which overwhelmed supervisors, e.g.:

- speedy and not always well prepared privatisation of banks, sometimes with no respect to "fit and proper" criteria, either in the selection of new shareholders or top officers,
- lack of proper capitalisation of some privatised banks and involvement in reciprocal leverage schemes,
- lack of capitalisation rules based on market risk; this encouraged asset-liability mismatches that in turn led to a highly liquid liability structure,
- loss of human capital in banks during the years when they were under the government; banking supervision capacity not meeting the requirements of increases in banks' portfolios.

### 1.4. Political Situation

The Mexican peso crisis provides a clear and very interesting example of how political factors can contribute to a financial turbulence. The series of unexpected events in politics had a visible influence on the behaviour of economic aggregates and certainly played an important, through hard to measure, role in triggering the December crisis.

The first of the series of events started on New Year's Day 1994 when peasants in the southern Mexican state of Chiapas began a rebellion by taking over six towns. Even though the uprising was rather quickly suppressed, it remained an issue in internal political life and occasionally flared up again. Especially before the August elections, the rebellion was again discussed and was recalled to question the extent of popular support for the government's economic program. On 23 March, Luis Donaldo Colosio, the presidential candidate of the ruling party, was assassinated. The causes of this murder were never actually revealed, and there were signs that it might have been associated with tensions within the ruling Institutional Revolutionary Party (PRI) [World Bank, 1995]. It should be noted that the PRI governed Mexico since 1929 as a party organised around well connected political families. The assassination brought serious turbulence to the financial markets with the peso at the ceiling of the intervention band and sharply higher inte-

rest rates. Improper response of authorities to the turmoil in the end of March and in April set the stage for the December crisis [Sachs et al., 1995].

The situation seemed to have calmed down when another candidate of the PRI, Ernesto Zedillo won the presidential elections on 21 August. He received above 50% of votes that came as a surprise to many observers. It is indeed hard to verify whether the elections were free of fraud. On the other hand, 1994 elections were perhaps more democratic and fair than many previous elections in Mexico. The outcome of the elections was generally considered positive from the financial stability point of view but may also have caused the authorities to believe that the worst of the instability was over. One month after the elections, on 28 September, PRI leader Jose Francisco Ruiz Massieu was assassinated. This murder remained a mystery too with several high officials of PRI possibly somehow implicated.

All these developments certainly changed the position of Mexico's traditional ruling party. The process of reform in the political scene actually began slightly earlier, and, as Dornbusch and Werner (1994) point out, the rapid embrace of greater openness has shattered the PRI coherence, so that the old corporatism became unmanageable. It is thus clear that during the whole 1994 there were serious tensions within the ruling elite and the uncertainty about Mexico's political future was a factor in the foreign perception of the country's financial stability.

It should also be noted that the years of presidential elections have traditionally been associated with financial turbulence. This fact was recalled in many analyses of the 2000 presidential elections. Also, as many authors agree the long period between the voting and taking the office by the president elect has a negative impact on the quality of governing the country. President Zedillo took office on 1 December and it was followed by the intensified unrest in Chiapas.

## 1.5. Crisis Management

While the policy mistakes of most of 1994 played an important role in triggering the December crisis, improper handling of the initial devaluation on 20 December probably exacerbated the crisis.

The devaluation on 20 December was announced after weeks of assurances that the government was committed to the previous exchange rate system. The announcement was made by the Finance Minister on radio and television rather than through an official channel. As the World Bank (1995) stresses, such a way of publicising such a major policy change angered investors. Also, it turned out that business leaders were consulted before the devaluation, thus having the opportunity to make profits at the expense of unin-

formed foreign investors [Krugman, 1997]. The devaluation was widely considered insufficient and the exchange rate immediately depreciated to the ceiling of the band, i.e. by 15%. The authorities had sacrificed the credibility without satisfying market expectations. The rush out of the country continued on the next day with Central Bank's reserves reportedly falling below 6 billion USD [World Bank, 1995]. President Zedillo affirmed the commitment to the new band, but on the next morning the government let the peso float. During the day it depreciated by a further 15%. On 26 December the planned press conference by the Finance Minister on the government anti-crisis plan was cancelled at the last moment. On the next day the peso depreciated to 5.45 pesos to the dollar. The auction of dollar denominated government bonds attracted almost no bids. Increasing prices made labour leaders to demand wage negotiations. On 29 December a new Finance Minister, Guillermo Ortiz Martinez was appointed, who within a few days announced a new economic program.

On 3 January, Stanley Fisher, Acting Managing Director of the International Monetary Fund, made a statement expressing the Fund's support for this program and announcing the establishment of the Exchange Stabilisation Fund of 18 billion USD with contributions under the NAFTA from the monetary authorities of other major countries as well as from private investors. The talks on a stand-by credit from the IMF started a few days later and an 18-month credit of 17.8 billion USD was finally approved on 1 February.

The Mexican authorities' program constituted of three main components: minimising the inflationary pressures of the devaluation, pushing forward structural reforms to support and promote competitiveness of the private sector, and to address short term concerns of investors and establish a coherent floating exchange regime. To the end of the first objective, a National Accord was set among workers, business and government to prevent wages and prices hikes, the government spending were to be reduced by 1.3% of GDP, and cuts in credits from state development banks were to be implemented.

In terms of structural reforms President Zedillo pledged to propose amendments to the constitution allowing for private investment in railroads and satellites, to open the telecommunication sector to competition, and to increase foreign participation in the banking sector. As the third objective is concerned, the co-operation with investment banks in order to address the issue of Tesobonos was announced, as well as creating a futures market in pesos, and commitment to a tight monetary policy. In the beginning of March, the finance minister announced a package of further measures aimed at strengthening the program. These included substantial increases in prices charged by public enterprises, VAT rate hike, and public expenditure reductions, and were designed to allow the public sector to stay

in surplus in 1995. Also, a further reduction of development banks was declared.

The Mexican Rescue Plan was supported with what was then the biggest ever financial support package. The initial amount of 18 billion USD announced by Fisher at the beginning of January after further intense discussions rose to the range of 25–40 billion USD in mid-January and finally around 52 billion USD of loan guarantees and credits at the end of February. This package included 20 billion USD of loan guarantees from the U.S. government, 17.8 billion USD stand-by credit from the IMF (by-then the largest ever financial package approved by the IMF for a member country both in terms of the amount and the overall percentage of quota, 688.4%), 10 billion USD from central banks via the BIS, and several billion dollars from other American governments [World Bank, 1995].

The unprecedented size of the support package brought about several controversies, especially in the U.S. The Clinton Administration was criticised heavily both for lack of action before the crisis, and for too much engagement in co-ordinating the support package. On 29 March 1995, Undersecretary of the Treasury, Lawrence Summers defended in closed hearings in the Senate the Administration's failure to publicise a warnings on the situation in Mexico. He admitted that the U.S Treasury lost the confidence in the peso before the dramatic devaluation took place but did not want to set off a market run on Mexico by making a public statement about the situation [Burkart, 1995]. The main arguments backing the support package pointed to the fact that Mexican economy was illiquid rather than fundamentally insolvent [DeLong et al., 1996]. In retrospect it seems that this view was indeed right, even though the U.S. engagement in the package was to a large extent motivated politically, i.e. by fears of possible political destabilisation in the neighbouring country [Krugman, 1997].

## 1.6. Conclusions

The above presentation of several key factors and their possible role in explaining the crisis shows that there is still no clear consensus on the issue. Several aspects did play a role and only their joint impact led to the abrupt events of end of December 1994. Various models were used to describe the crisis. These were both models of the second generation type, pointing to the role of self fulfilling expectations and the political and economic constraints faced by the authorities, as well as modified first generation models stressing the importance of economic fundamentals. With respect to the causes of the crisis following general points can be made:

– Private sector savings did not match the level of investment. Mexico had easy access to credit as a result of the si-

tuation in the world financial markets, and liberalisation of the economy. Resulting credit expansion was not accompanied by proper credit screening.

– Mexico was relying too heavily on foreign borrowing in 1993 and early 1994, having no easy escape route in the case this inflow would stop.

– The exchange rate rule was perhaps not quite consistent with the developments in other spheres (overindulgence of credit, excess of funds in international financial markets, fast growth of short-term debt, financial liberalisation). The real overvaluation of the peso might also have played some role.

– Mexico experienced a series of unexpected negative shocks during 1994 – the rise in U.S. interest rates coinciding with political tensions in the country.

– Mexican politics in 1994 did play an important role in the crisis.

– Lack of availability of timely and accurate information on the economic situation in the country might have played some role in the abrupt change of investors' attitude towards Mexico.

– The policy response to the shocks of early 1994 was certainly inappropriate (this is an *ex post* diagnosis).

– Neither fiscal nor monetary policy tools were used to adjust the economy to a worsening situation during 1994.

– Allowing for the erosion of foreign reserves of that extent while building a large and rapidly growing stock of dollar indexed short term debt in the period March-December 1994 was an extremely risky strategy that did not work. This set the stage for the December crisis and then led to very high interest rates and, consequently, harsh consequences for the real sector.

– Perceived risk of financial collapse played a role in both causing the collapse and making it very severe.

– Inappropriate management of the devaluation and improper steps taken in the days following it led to a complete loss of confidence in Mexican policies and consequently to more severe consequences.

An interesting feature of the Mexican crisis is the severity of the recession that was caused by it. On the other hand, the crisis was relatively quickly overcome and the economy seems to have overcome its underlying causes. One of the possible explanations of such developments might be that the private sector was indeed heavily dependent on external financing. Then again, a relatively quick rebound of the economy could suggest that it was fundamentally sound, and the crisis exposed it to the liquidity trap. In other words, given the abundance of credit, the private sector was using it heavily and possibly sometimes unwisely, but exposed to the dramatic change in the external environment was still able to become competitive again.

## Appendix: Chronology of the Mexican Crisis

- January 1994 – peasant rebellion in the Chiapas province
- February 1994 – U.S. interest rates increase slightly
- 23 March 1994 – assassination of the presidential candidate of the ruling party
- end of March – April – severe financial turbulence in Mexico: exchange rate depreciates by around 10% reaching the ceiling of the band, Bank of Mexico reserves shrink by 9 billion USD, interest rate rise significantly
- April – December 1994 – government continues the process of substituting its short term peso denominated debt with dollar indexed debt
- 21 August 1994 – Ernesto Zedillo wins the presidential elections; interest rates fall slightly
- 28 September 1994 – assassination of the ruling party leader
- October – November – capital outflow continues, Bank of Mexico reserves decline by further 4.7 billion USD
- 1 December 1994 – president Zedillo takes office
- 20 December 1994 – Finance Ministers announces the widening of the exchange rate corridor by 15%
- 22 December 1994 – under pressure from financial markets the authorities announce free floating the peso
- 29 December 1994 – appointment of the new Finance Minister, a few days later announcement of the government economic program
- 3 January 1995 – IMF expresses its support for the program, announces the establishment of the Exchange Stabilisation Fund
- 1st quarter 1996 – economic growth (0,1%) resumes to average at close to 7% during the next three quarters

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## Part II.

# The 1995 Currency Crisis in Argentina

by Małgorzata Jakubiak

### 2.1. Introduction

This paper presents the economic developments that took place in Argentina at the time of the 1995 currency crisis. This financial turbulence resulted from the contagion of the Tequila crisis of the late 1994. And although the country maintained its commitment to a peg under the currency board arrangement, the reserves of the central bank were severely depleted and the consequences for the economy manifest.

The study starts from a description of the economic reforms of the early 1990s that set the framework for the monetary and fiscal policies in place when the crisis hit. There is then a discussion on the macro- and microeconomic climate, followed by the description of policy responses to the crisis. The paper concludes with the assessment of whether the core factors that drove the crisis have been properly addressed by looking at the post-crisis situation.

### 2.2. Overview of Economic Situation Before and During the Crisis

#### 2.2.1. Reforms of the Early 1990s and Crisis Developments

The 1980s were marked by a series of economic and financial problems. One of them was chronic inflation and periodic hyperinflation which led to widespread dollarization of the economy. Moreover, prevailing public sector deficits were crowding out private sector credit (García-Herrero, 1997). A banking crisis erupted in 1980, and then developed into a severe currency crisis a year later. The next crisis started in 1985 and ended in 1987. The subsequent economic plan aimed at lowering inflation resulted in its outburst in 1989 and the complete dollarization of the economy as investors' confidence weakened. Two huge devaluations took place in the late 1989 and in 1990. After another bout of financial turbulence, one more stabilization

plan failed. The exchange rate, which under earlier plans had been pegged, was allowed to fluctuate, and all price controls were removed (Choueiri and Kaminsky, 1999). The difficulties of the period 1989–1990 – mainly as a result of hyperinflation – allowed for the general recognition of the need for reforms.

The changes, that put the country on a sustained growth path began with the *Convertibility Plan* of 1991. The *Convertibility Law*, which is still in operation, established the currency board arrangement. Financial sector reforms followed. Argentina also eliminated, by 1993, restrictions on capital flows, relaxed or abolished barriers on imports and exports and deregulated trade and some professional services. Until 1994, roughly 90% of all state-owned enterprises was privatized, bringing considerable gains to economic efficiency [IMF, 1998]. In 1994 Argentina recorded economic growth of 8%, managed to lower inflation to 4.2% (from over 10% in 1993 and 25% in 1992), and kept the budget deficit of the federal government at the level of 0.5% of GDP. The banking sector recorded growth in credits and deposits. From the early 1990s, capital started to flow in, as a result of investors' more favourable perception of the region and relatively high interest rates.

At the time, interest rates in the United States were low, and net flows of portfolio capital to Argentina amounted to 33.7 billion dollars in 1993 and to 8.4 billion in 1994. These huge capital inflows led to an explosion of domestic credit, consumption, real estate and stock market booms, and lack of diversification of bank portfolios [Choueiri and Kaminsky, 1999]. The current account deficit deteriorated as a result of real exchange rate appreciation. As the U.S. and world interest rates soared in 1994, the Mexican peso was devalued in December 1994 and the capital outflows brought about balance of payment pressures, the rumors about abandoning the currency board spread out. The Argentine banking system suffered from a run on deposits, and the credit crunch followed. Between December 1994 and March 1995, the central bank (BCRA) lost 41 percent of its international reserves, defending the peso-dollar peg. The banking system lost 18% of its deposits in five months which generated liquidity problems. A number of prudential regulations were introduced in early 1995 in order to

restore confidence in the banking system. By the end of the 1995, the deposits went nearly back to their pre-crisis levels and the monetary authorities managed to restore its gross international reserves [IMF, 1999]. The currency board was defended. However some smaller banks continued to experience problems, and the crisis resulted in a severe recession. In 1995, real GDP went down by 4%.

Among the core factors that allowed the transfer of external shocks to the real economy and leveraged the crisis were weak links with world financial markets, relatively underdeveloped domestic financial markets, labor market rigidities, systematic crowding out, and real exchange rate inflexibility imposed by the currency board regime [Caballero, 2000]. All these factors are addressed in the following sections of the paper.

### 2.2.2. Monetary and Exchange Rate Policy

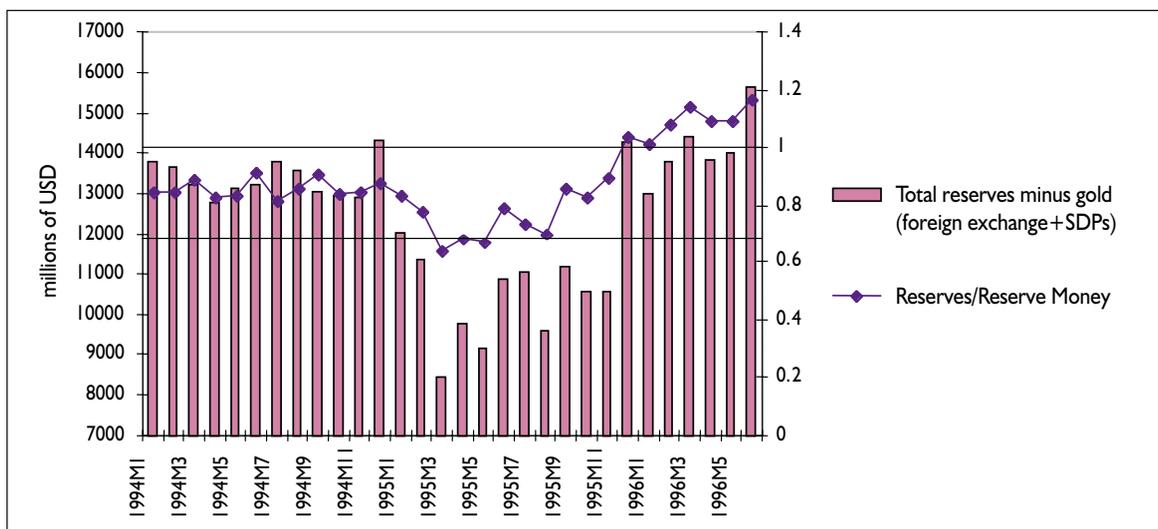
From 1991 Argentina has followed a currency board exchange rate arrangement. The currency board is – after the classical monetary union – the second most rigid form of the exchange rate regime. In this orthodox form of a fixed exchange rate regime the role of monetary authorities is reduced to issuing notes and coins that are fully backed by a foreign reserve currency on demand at a fixed exchange rate. There is a minimum of 100% backing of reserve money by net foreign assets of the central bank, and currency boards often hold excess reserves to offset against asset valuation changes. These excess reserves are related to the net worth of a currency board (Pautola and Backé, 1998), because seigniorage can be earned only from interest on reserves.

The 1991 Convertibility Law and the 1992 Central Bank Charter created the basis for the functioning of the currency board in Argentina. The exchange rate of the Argentine peso was fixed at one against U.S. dollar, and the central bank was required to keep 100% of its monetary base in international reserves. However, since 1995 1/3 of it may be kept in the safe dollar-denominated government bonds [Hanke, Schuler, 1999] while holdings of these securities cannot grow by more than 10% per year. These re-regulations eliminated the possibility of inflationary financing of the government deficit. Moreover, the charter restrains the central bank from financing provincial or municipal governments, public firms, or private non-financial sector [Pou, 2000]. The central bank became fully independent from the legislative and executive branches of government, and set its principle goal at maintaining the value of domestic currency.

As can be seen from the above description, the Argentine currency board is not the strictest form of a currency board where monetary authorities cannot intervene in the market, cannot act as a lender of last resort, and where interest rates are solely market-determined. Indeed, the Central Bank of Argentine Republic (BCRA) has some room for discretionary monetary policy, because its international reserves are not fully backed by the domestic currency and because it can set reserve requirements for commercial banks. This ability to retain some flexibility was used during the 1995 financial crisis.

The international reserves of BCRA started to shrink quickly in January 1995 when the Argentine peso came under a pressure, and when the bank tried to rescue troubled commercial banks (see Figure 2-1). The reserves hit the lowest level in March 1995, which was around 2/3 of the monetary base, the minimum coverage requirement. BCRA

Figure 2-1. International reserves and monetary base coverage, 1994–1996



Source: own calculations on the basis of IFS data

Table 2-1. Interest rates, 1994–1995

	1994			1995									
	10	11	12	1	2	3	4	5	6	7	8	9	10
Prime deposit rate	8.27	8.72	9.55	10.65	11.64	<b>19.38</b>	<b>19.07</b>	<b>15.54</b>	10.83	10.24	9.17	9.21	8.92
Lending rate	9.83	10.00	13.56	18.06	19.06	<b>34.05</b>	<b>26.45</b>	<b>22.13</b>	16.19	14.57	13.29	13.26	12.55
Real interest rate differential	1.94	1.99	2.08	2.17	3.30	<b>11.65</b>	<b>11.36</b>	<b>8.40</b>	4.29	4.07	3.31	3.86	3.73

Source: IFS, own calculations

Note: real interest rate differential is calculated as the difference between real Argentine deposit rates and real U.S. deposit rates

was then buying dollar-denominated Treasury bonds, in order to mitigate the effects of the credit crunch. The central bank's holding of these government notes increased by 25% from 1994 to 1995, and declined sharply afterwards [Caballero, 2000]. This decline is reflected in the Figure 2-1 as the high indicators of foreign exchange reserves in 1996.

As the central bank was depleting its reserves, interest rates rose sharply, reflecting a domestic liquidity squeeze and rise in the country risk premium. The real interest rate differential vs. U.S. deposit rate reached above 11 percentage points, while during 1994, its value was close to 2. High interest rates induced the private sector to lower demand for credit [1] and reduce expenditures. Banks cut their credit lines and refinancing facilities. All these factors contributed to a decline in the economic activity in 1995 and to higher unemployment [Catao, 1997].

### 2.2.3. Fiscal Policy

Through the early Convertibility Plan years, the government was running budget deficits. The central government budget deficit averaged 0.5% of GDP during the years 1991–1994 – with a surplus only in 1993. The deficit of the consolidated public sector (including federal budget, provincial government budgets, and off-budgetary funds and programs) averaged 1.8% of GDP, with 2.5% of GDP in 1994. The crisis year of 1995 was marked with the 1.5% deficit of central government budget, and 4.3% deficit of the whole public sector.

According to the IMF calculations, fiscal policies were pro-cyclical in the early 1990s, with public sector deficits rising faster than the cyclically adjusted public sector balance [IMF, 1999]. During this period (1991–1994), when output was growing above potential and fiscal impulse was expansionary, the lowering of inflation has been achieved by the nominal exchange rate anchor and the supply-side oriented reforms, such as change in the tax system, and elimination of distortionary tariffs. Only from 1995 onwards, as the country slipped into recession, did the fiscal impulse start to have a negative impact on demand, thus contributing to the

reduction, and finally to the elimination of inflation [IMF, 1999].

Tax reform aimed at eliminating some taxes and shifting the relative tax incidence from production to consumption and incomes was implemented in the early 1990s. Many distortionary taxes, such as those on exports, bank debits and assets, with a yield about 3% of GDP, were removed. Some exemptions, mainly from VAT, as well as subsidies, were abolished. To improve labor market flexibility, the government significantly reduced the employer payroll tax in some sectors (reversed for a couple of months during the 1995 crisis). There was also a significant decline in the number of workers employed by the state as efforts to improve efficiency in the public sector were undertaken (the provinces started to be responsible for the health and education services [IMF, 1999]). New and stronger laws increased the government's ability to control tax evasion.

Pension reform, aimed at shifting from the pay-as-you-go publicly funded system to a system combining public transfers and private capitalization, started in mid-1994. The reform resulted in the reduction of future liabilities of the public sector. However, the immediate costs for the budget are estimated to be around one percent of GDP per year, as the government pays the contribution to the private system for those who voluntarily opted to shift away from the pay-as-you-go scheme. In any event, these costs appeared first in the consolidated budget in 1996, exactly one year after the currency crisis, and thus the consequences of this reform for the fiscal sector are not explored further.

### 2.2.4. Private and Public Debt

The reforms of the early 1990s allowed Argentina to return to the voluntarily financing of its external debt, which was rescheduled under the Brady Plan [Pou, 2000]. The developments in borrowing from the international capital markets, both public and private, have moved in the direction of declining spreads, the lengthening of maturity, and

[1] There were also other factors contributing to the decline of the private sector demand for credit, such as crowding out by government borrowing, which turned to domestic banks for financing its monetary interventions in 1995, such as providing troubled banks with fresh credit.

**Table 2-2. Main economic indicators, 1991–1997**

	1992	1993	1994	1995	1996	1997
Real GDP growth		5.7%	8.0%	-4.0%	4.8%	8.6%
Nominal GDP (millions of peso)	226 847	236 505	257 440	258 032	272 150	292 859
CPI inflation	24.9%	10.6%	4.2%	3.4%	0.2%	0.5%
Unemployment Rate	7.2%	9.1%	11.7%	15.9%	16.3%	
Structure of GDP*:						
Agriculture	6.0%	6.7%	6.4%	7.0%	6.9%	6.6%
Industry	30.7%	32.6%	32.3%	32.1%	32.1%	32.9%
Services	63.3%	60.8%	61.2%	60.9%	60.9%	60.5%
General Government Balance (as % of GDP)	-0.2%	0.9%	-0.5%	-1.5%	-2.4%	
Public Sector Balance (as % of GDP)	-0.5%	-0.9%	-2.5%	-4.3%	-4.2%	
Broad money (M2) monetization	11.2%	16.3%	19.4%	18.8%	21.1%	24.0%
Population (millions)	33.42	33.87	34.32	34.77	35.22	35.67

Source: IFS, WDI, own calculations based on the IFS and WDI data

Note: \* structure of GDP from 1992 is not fully comparable with later data

**Table 2-3. Argentine external debt, 1992–1996**

	1992	1993	1994	1995	1996
TOTAL EXTERNAL DEBT	68 345	70 576	77 434	83 536	93 841
In % of GDP	29.8%	29.8%	30.0%	32.4%	34.5%
Total long-term debt	49 855	58 403	66 052	67 235	75 348
Public and publicly guaranteed	47 611	52 034	55 832	55 970	62 392
Private non-guaranteed	2 244	6 369	10 220	11 265	12 956
Total short-term debt	16 176	8 653	7 171	10 170	12 200
Total short-term debt (% of total external debt)	23.7%	12.3%	9.3%	12.2%	13.0%

Source: Global Development Finance, 1998, and own calculations based on IFS and GDF

the fixed rate nature of the debt (IMF, 1998). However, these developments were for some time reversed after the 1995 crisis.

Total external debt rose sharply in 1995 and in 1996, and a large part of this change can be attributed to the rise of short-term debt. The debt of the public sector rose mainly because more bonds were issued in 1995 and 1996. Outstanding public debt attributable to the bond issues amounted to \$12.4 billion in 1994, while in 1995 and 1996, the value rose to \$14.8 billion and \$23.5 billion respectively. Average maturity of the international public bonds issued in 1995 actually slightly increased in comparison with the previous year (from 4.8 to 5.0 years).

The sharp fall in the average maturity of bonds issued in 1995 shown in the private sector, where this maturity decreased from 4.5 years in 1994 to 2.6 years. The spread significantly increased. As the government was issuing

more international bonds in 1995, the value of bonds issued by the private sector fell dramatically, to less than \$1 billion, and returned to their pre-crisis value in 1996. However, the relatively small size of total private external debt suggests weak access to international financial markets of the private sector.

## 2.2.5. Savings and Investment

Typically for a fast-growing economy, Argentina was dependent on foreign savings to carry out investments necessary in order to sustain its economic growth. Domestic resource gap, which has been in place during the 1990s, resulted mainly from low domestic savings. The rate of investment, although significantly higher than savings, was still lower than investment rates for Central

**Table 2-4. Savings and investment (in percent of GDP), 1994–1997**

	1994	1995	1996	1997
Gross national savings (% of GDP)	16.3	16.5	15.5	16.3
Gross national investment (% of GDP)	20.0	18.0	17.7	20.0

Source: IMF (1999)

European countries in the mid-1990s, or than the investment ratios of Southern European countries in the 1980s.

It can be seen from the comparison of capital flows that the majority of this domestic resource gap was financed through foreign direct investment.

### 2.2.6. Foreign Trade

One of the reforms of the Convertibility Plan involved the elimination of all tariffs on exports and the majority of non-tariff barriers on imports. Imports tariffs have been cut from over 40% average rate in 1989 [IMF, 1998] to 8.4% at the end of 1994, with a zero rate on capital goods and raw materials. This eliminated distortions in foreign trade.

Argentina is an exporter of raw materials and some lightly processed primary products. These primary and agro-industrial products account for 70% of all exports, and are subject to high fluctuations in world prices. Since 1990, there has been a quick rise of manufacturing exports to Brazil, following the creation of MERCOSUR (South American customs union). But still, in 1994 this number was below 25% of total value of exports. Generally, because of high commodity concentration, Argentine exports have been highly volatile.

Following the removal of restrictions and high economic growth, Argentine imports between 1991 and 1997 was growing more than four times as fast as real GDP. Catao and Falchetti (1999) estimated that long-run income elasticity of imports was above 2 during this period, and

that this elasticity showed some pro-cyclical behavior. It should be noted that between 1991 and 1995, the real exchange rate kept appreciating, which also explains the rapid growth of imports at this time, but not as much as booming economic activity. Over 50% of imports in 1994 came from the US, the EC and Japan.

Trade deficits in place since the early 1990s were mainly driven by high dependency on world prices for exports, soaring domestic demand and incomes, together with real appreciation typical of most emerging markets. Trade surpluses of 1995–1996 were taking place because world prices for traditional Argentine exports increased, the economy stepped into one-year long recession and there was a fall in the real effective exchange rate during the Tequila crisis.

### 2.2.7. Balance of Payments

Argentina has been systematically running current account deficits in the 1990s, which is a typical feature of an emerging economy. Even in the absence of trade deficits, as in 1995 when imports fell because of the recession, the negative current account balance was caused by the outflows of the investment incomes. As 1995 showed, the current account deficit had to be financed by foreign borrowing, following changes in the investors' preferences and the sudden outflow of short-term capital.

It should be noted that there have been large inflows of portfolio capital during the two years preceding the crisis. Net inflows of short-term capital in 1993 amounted to

Figure 2-2. Foreign trade, 1993-1997



Source: IFS

Table 2-5. Balance of payments (mil. USD), 1992–1997

	1992	1993	1994	1995	1996	1997
<b>Current account balance</b>	<b>-5 521</b>	<b>-8 030</b>	<b>-10 992</b>	<b>-4 985</b>	<b>-6 521</b>	<b>-11 954</b>
Trade balance	-1 396	-2 364	-4 139	2 357	1 760	-2 123
Exports of goods	12 399	13 269	16 023	21 161	24 043	26 431
Imports of goods	-13 795	-15 633	-20 162	-18 804	-22 283	-28 554
Non-factor services (net)	-2 463	-3 221	-3 692	-3 326	-3 366	-4 178
Investment income	-2 393	-2 931	-3 567	-4 529	-5 331	-6 089
Current transfers (net)	731	486	406	513	416	436
<b>Capital and financial account</b>	<b>7 350</b>	<b>20 328</b>	<b>11 155</b>	<b>4 623</b>	<b>11 175</b>	<b>16 826</b>
Direct investment (net)	3 218	2 059	2 477	3 818	4 922	5 099
Portfolio investment (net)	4 513	33 731	8 389	1 864	9 727	11 087
Other investment (net)	-381	-15 462	289	-1 059	-3 474	640
General government	-1 343	-10 196	969	1 197	-199	136
Bank	76	-570	761	2 570	-2 744	-1 615
Other sectors	739	-697	-1 423	-4 832	-567	2 130
Net error and omissions	54	-1 173	-872	-1 853	-1 316	-1 498
<b>Overall balance</b>	<b>1 883</b>	<b>11 125</b>	<b>-709</b>	<b>-2 215</b>	<b>3 338</b>	<b>3 374</b>
Financing	-1 883	-11 125	709	2 215	-3 338	-3 374
Reserve assets	-3 264	-4 279	-685	82	-3 875	-3 293
Use of IMF credits	-73	1 211	455	1 924	367	-38
Exceptional financing	1 454	-8 057	938	209	170	-43

Source: IMF IFS

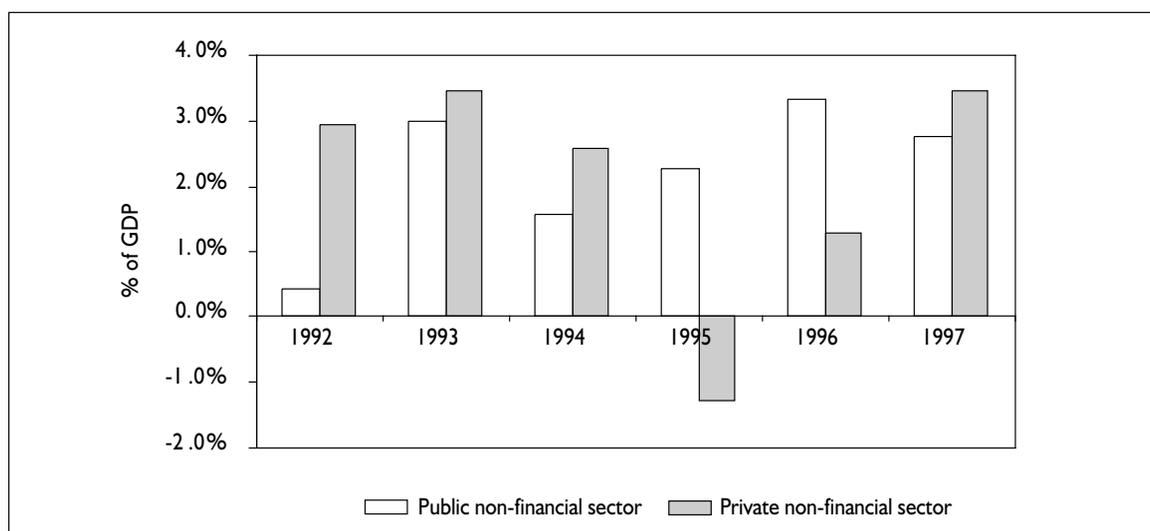
around 15% of Argentine GDP, which was at that time 16 times more than the net inflows of long-term investment.

However, Foreign Direct Investment inflows have been growing systematically during the analyzed period, notwithstanding the 1995 decline in real output. The primary reasons being prevailing international conditions, the implementation of structural reforms by Argentina, privatization, and the elimination of restrictions on foreign

investors, as well as the removal of restrictions on capital transactions in general [IMF, 1998]. Since the beginning of the 1990s, there have been no capital controls on financial or commercial operations between residents and nonresidents [BCRA, 2000].

The significant rise in FDI flows in 1995 and in 1996 can be attributed mainly to the creation of the private pension funds, and to the sales of private firms to foreign investors

Figure 2-3. Private and public net capital flows to non-financial sector, 1992–1997



Source: own calculations based on the data from Argentine Ministry of Economy and IMF IFS

[IMF, 1998]. Net FDI flows accounted for around 1% of GDP in 1992–1994 and for 1.7% on average, during the period 1995–1997. However, there was almost no change in the aggregate existing foreign investment stock, which averaged around \$3.5 billion per year during the period 1992–1995. Its structure, though, has been changing, indicating faster growth of FDI non-related to the privatization opportunities. FDI grew most rapidly in the communications and manufacturing sectors. Significant privatization-related investment flows were recorded also for the electricity, gas and water and for the petroleum industries. Around 40% of all FDI coming to Argentina during 1992–1995 originated in the USA.

Despite the important role of huge inflows of portfolio investment in 1993, capital inflows (both private and public) constituted a relatively small fraction of GDP for a fast growing economy. During 1992–1994, while GDP was increasing by 7.8% per year, overall capital flows [2] amounted to 4.9% of GDP. This suggests that the link of Argentine financial market with international financial markets was weak. As it was visible in 1995, this significantly constrained government ability to use international financing when there was an external shock. Official capital flows depicted on the Figure 2-3, rose in 1995 supported by loans from IADB and the World Bank.

### 2.2.8. Real and Nominal Rigidities

As there was little room for monetary policy, the burden of adjustment during 1995 fell on wages and prices. Argentina has a European-style labor market with centralized bargaining, high severance costs, and still high – on average – wage taxes. These rigidities – both nominal and real – amplified external financial shock by forcing a larger share of adjustment on output and employment. This was costly, since unemployment has stayed well above 10%, even in 1999.

In addition, real exchange rate inflexibility, brought about the convertibility regime, combined with labor market rigidities and limited access to financial markets made the 1995 fall in output worse [Caballero, 2000].

### 2.2.9. Banking System

The introduction of the Convertibility Plan markedly changed the Argentine banking sector. High inflation and macroeconomic volatility of the 1980s, together with large capital flight, caused the demand for domestic money to

decline heavily. The ratio of broad money (M3) bottomed at 6 percent of the GDP in 1990, the overall sum of deposits of the banking system was low, and real interest rates on deposits were negative. Thus, the banking system reforms of the early 1990s focused primarily on the strengthening of the whole system and on removing obstacles to financial intermediation [IMF, 1998].

The introduction of the simplified system of reserve requirements began in 1991. The rates on both foreign and domestic currency transactions were unified, and the adherence to these requirements was made more effective. New capital adequacy requirements, incorporating lending interest rate risk factor, were put in place, and they have been gradually tightened. The loan classification, portfolio risk rules and provisioning rules were introduced in 1994. The supervisory role of the financial superintendence was reinforced in order to verify compliance with all the prudential standards. The overall result of these regulations was visible in the fall of outstanding central bank credits to financial institutions [IMF, 1998]. The risk-weighted capital to assets ratio rose to 11.5% in January 1995, well above the 8% Basle standard [Pou, 2000]. The reserve requirements averaged 17.5% of deposits [IMF, 1998].

The reforms of the early 1990s removed the barriers of entry and increased competition between banks. They were aimed at ensuring the safety of individual banks and the whole banking system. They also intended to reduce moral hazard. These issues were very important, since under the currency board, the BCRA role as the lender of last resort was very limited. Basically, the central bank was not allowed to provide liquidity to the banks in financial trouble. The BCRA was able to conduct intervention through repo operations, but this was limited to the smoothing of fluctuations in the interbank market. The *Convertibility Law* allowed extending credit to financial institutions in the emergency situation only [IMF, 1998].

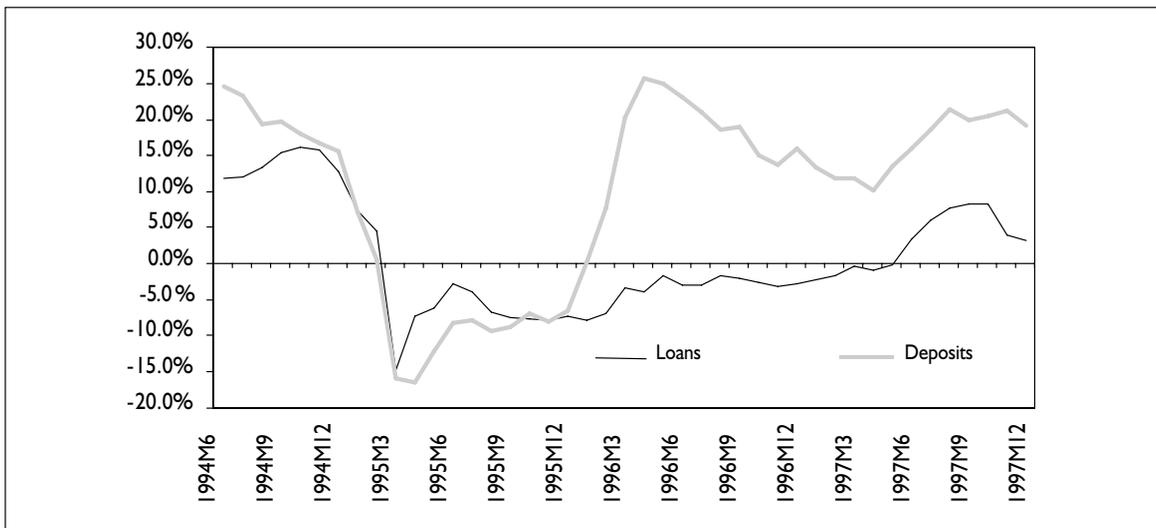
#### 2.2.9.1. Developments during December 1994–March 1995

As the fears about the possible abandoning of the peg, triggered by the Mexican devaluation, intensified, and as Argentine debt prices kept falling, banks experienced a run on deposits. This situation is shown on the Figure 4, describing effective growth rates of loans and deposits [3]. As the depositors started to withdraw their funds, it initially affected wholesale banks, whose loan portfolios were composed mainly of government bonds, then spread to the entire banking system. In 1995, the BCRA

[2] Together with banking sector flows.

[3] Time series of deposits and loan growth rates, each less their respective real interest rate

Figure 2-4. Effective growth rate of deposits and loans, 1994–1997



Note: The term "effective" refers to the annual growth rates of credit and deposits less the real lending and the real deposit rates, respectively (after Caballero, 2000). PPI year-over-year inflation was used in the construction of real interest rates.

Source: own calculations based on IFS

started to use its reserves to provide funds to banks. The central bank lost nearly 20% of its monetary base coverage [IMF, 1998] [4], which was the limit of the intervention allowed as a response to crisis situation. Despite these efforts, the loss of deposits resulted in a huge credit crunch.

It should be noted that an important feature of the Argentine banking system at the time were the problem loans, accounting for more than 10% of the total loan portfolio in 1994. Moreover, they have not been uniformly distributed [IMF, 1998]. This factor was responsible for some of the changes in the banks' assets that happened in the early 1995. Another important factor was the lack of official deposits insurance, which, coupled with the restricted role of the BCRA as a lender of last resort, intensified the perception of deposit risk.

During the early phase of the run of deposits, there has been a visible shift to quality. First of all, this meant that depositors started to convert peso deposits to dollar deposits, expecting the devaluation. This is shown on Figure 5. While the peso deposits of the whole banking system have been falling since December 1994, the dollar deposits were still growing in February 1995. Then the fall in the dollar deposits was less pronounced, and after mid-1995 they quickly started to build up again. At the same time, peso deposits stayed at a relatively unchanged level until the end of the year. We can see that the recovery of deposits in the Argentine banking system towards

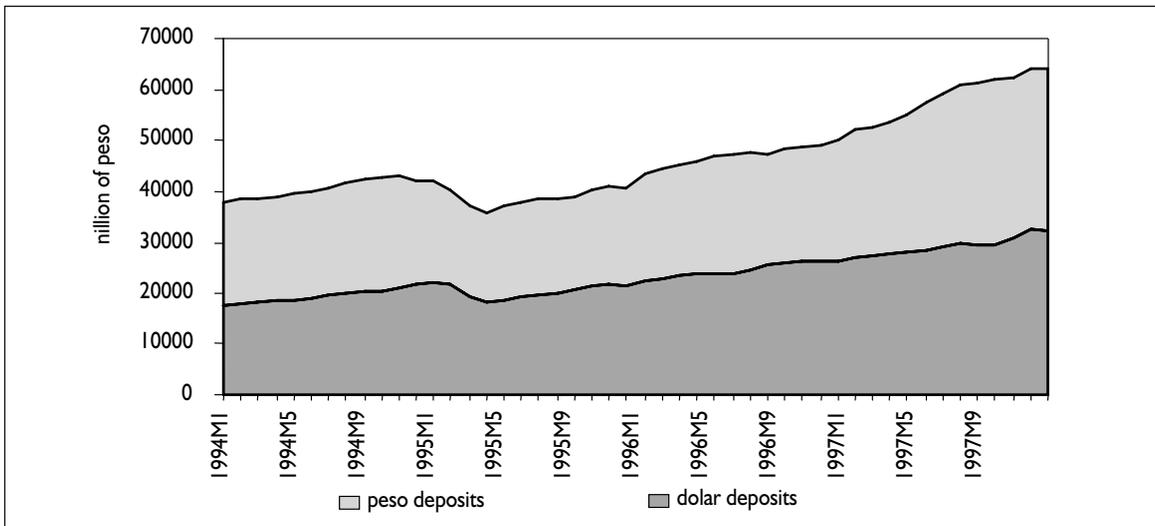
the end of 1995 was attributable mainly to the increase in the amount of foreign currency deposits.

Secondly, the non-uniform distribution of the problem loans meant that small public provincial banks had a disproportionately bigger share of non-performing loans than the larger banks. When the run on deposits started, these small banks suffered more, as their depositors started to move funds to the larger banks. Public provincial banks lost their market share (from 12.8% of total assets in 1994 to 9.6% in 1995), while private banks gained. While 56.7% of total assets belonged to the private banks in 1994, the share increased to 58.6% at the end of 1995. The market share of the large national banks remained relatively unchanged at around 30% of total assets [Burdisso et. al, 1998]. It is claimed that although part of the small banks market share was lost as a result of privatization following the crisis, an important fraction was gone due to a change in the market perception of their credit risk.

Another way of looking at the situation of the small banks during the Tequila crisis is to examine their indicators of profitability. Return on total assets of the 20 largest banks remained relatively stable and generally positive during the years 1994–1997, while the profitability of total retail banking sector was much more volatile, often negative, and fell sharply during the first months of 1995 [Burdisso and D'Amato, 1999]. This situation increased the contagion, as some banks have virtually found themselves

[4] Around 30% of usable foreign exchange reserves according to the author's calculations (see Figure 2-1).

Figure 2-5. Peso and dollar deposits of the deposit money banks, 1994–1997



Source: own calculations based on data provided by A. Ramos from the IMF, and on the IFS

short of liquid assets what affected even a number of apparently solvent institutions [IMF, 1998]. The full-scale run on banks started in February 1995.

### 2.2.9.2. Role of Private, Public and Foreign Ownership

Although the privatization process started in early 1993, following the remonetization of the Argentine economy and the redefinition of the role of the public sector, only after the Tequila crisis did this process gain momentum. Until early 1995, only 3 banks had been privatized [Burdisso et. al, 1998]. At the end of the 1994 there were 135 private banks – both foreign and domestically owned – in Argentina. They accounted for over 50% of the whole banking system assets. 33 public banks were on average larger: they had 30% (national) and 13% (provincial) of the market share [Burdisso et. al, 1998].

Following the removal of restrictions on foreign investment and capital flows of the early 1990s, the number of foreign banks in Argentina increased. However, in 1994 they still accounted for under 20% of system assets only [Goldberg et. al, 2000]. When comparing their loan portfolios to those of the state-owned banks, it shows that the foreign banks had lower mortgage shares and higher shares of commercial, government, private and other lending. Foreign banks were similar under this respect to the domestic private banks. However, the foreign banks were perceived as generally safer and healthier. The loan growth rates of the foreign banks were substantially higher than the respective rates of the domestic banks in 1994, and they continued to grow faster even during the crisis period [Goldberg et. al, 2000].

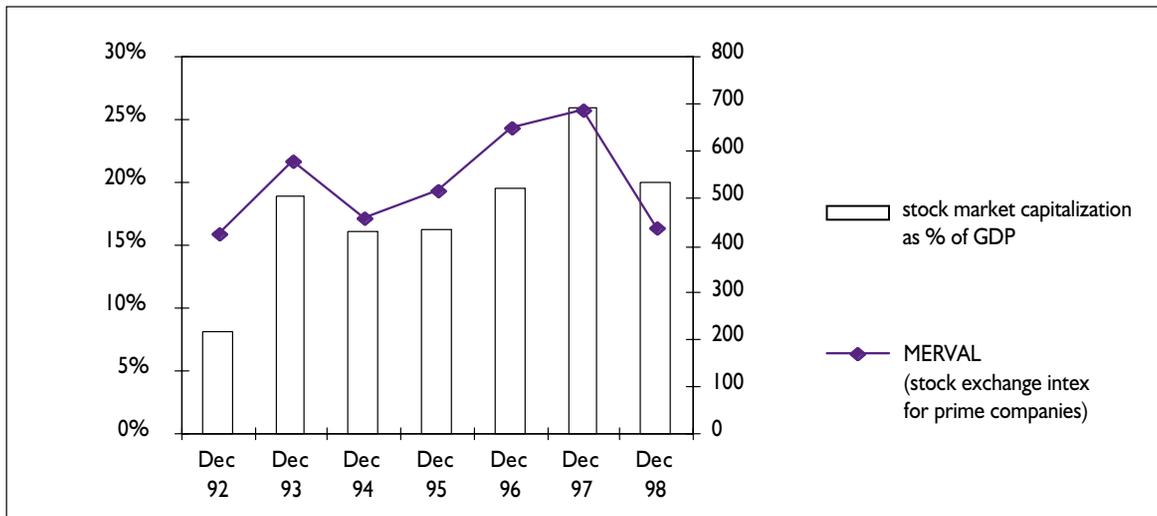
According to the research of D'Amato et. al (1997), bank "fundamentals" – such as their profitability and level of interest rates – as well as the overall macroeconomic situation were very important in driving the dynamics of deposits. However, there is evidence of contagion effects in the group of small and medium-sized banks on which public information was poorer.

### 2.2.10. Domestic Financial Market

The financial markets in 1994–1995 had tenuous links with the international markets. As already mentioned, the relatively small inflows of capital relative to the size of the economy bear this out. Another argument in favor of the weak link with the world markets is the fact that foreign capital focused mainly on large enterprises, and that the smaller companies had difficult access to the international markets. During the early months of 1995, the volatility of the stock index for prime companies and the overall stock index substantially differed. The volatility of stock index for prime companies (MERVAL) increased significantly, while the volatility of the total market index remained relatively unchanged [Caballero, 2000]. Notwithstanding volatility, values of both MERVAL (see Figure 2-6) and total stock market index have been relatively low from December 1994 until the end of 1995.

There was also a large spread-premium on Argentine sovereign bonds relative to the U.S. throughout this time, which further confirms the country risk-premium and its weak ties with international financial markets. Moreover, Argentine markets are still underdeveloped by interna-

Figure 2-6. Stock market indicators, 1992–1998



Source: National Securities Commission

tional standards. The broad money, loans, and the stock market capitalization (see Table 2-2 and Figure 2-6) expressed as a fraction of GDP are relatively low [Caballero, 2000].

Stock market capitalization reached over 50% of GDP in Chile, more than 25% in Mexico, around 40% of GDP in Spain and Portugal, and about 100% in the U.S. in 1997. The figure in Argentina was well below 20% of GDP during the period of 1993–1996. Broad money monetization, which stayed during the years 1993–1996 at around 19% of GDP in Argentina, had on average values around 25% of GDP in Brazil and Mexico. Leaving aside well developed, leading markets, Argentine performed poorly even when compared to other countries in the region.

The consequences of the weak financial links and the sub-development of the domestic market became visible during the 1995 crisis. When the country found itself near the limit of access to international markets, this hampered the swift allocation of resources.

### 2.2.11. Private and Public Sector

Prior to the crisis, the enterprise sector was almost entirely private, as during 1991–1994 around 90% of all state-owned enterprises were privatized [IMF, 1998]. This move increased productivity, brought significant gains in

the reallocation of resources as the public sector shrank, but also boosted unemployment.

Despite a large and expanding private sector, there were considerable differences in the growth prospects between larger enterprises and agricultural producers together with small industrial enterprises located in the countryside. Difficult access to bank credit may serve as an example.

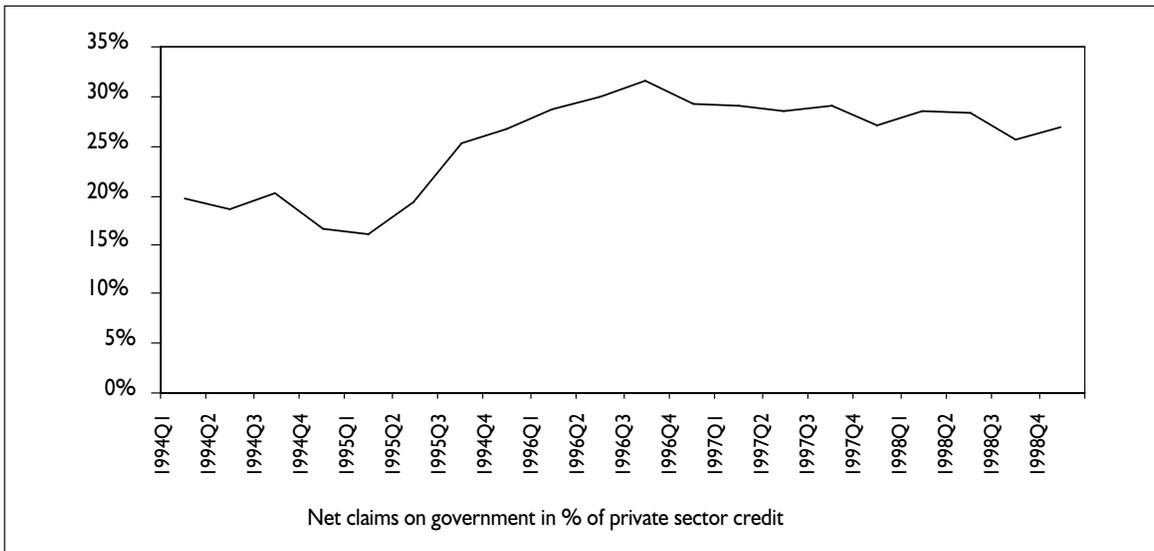
Although the size of the private sector has become more and more important since the beginning of the 1990s, one of the problems of the post-crisis period was the lack of recovery of private sector credit. It is claimed that its growth has been repressed by huge government borrowings from the domestic market, which took place during 1995. As the government turned to domestic banks for financing its monetary interventions during the Tequila crisis (Figure 2-7) while facing external constraints, the private sector credits have been crowded out [Caballero, 2000]. The fast consolidation process in the banking system also enhanced this trend [5].

### 2.3. Political Situation and Management of the Crisis

It is believed that the run on deposits of March 1995 was also caused by the bad perception of the current polit-

[5] As many of the local branches of the wholesale and cooperative banks disappeared after 1995, the information concerning their clients' credit-worthiness was not available (there was no countrywide credit rating system). There is evidence that the surviving banks were unwilling to "screen" their potential clients and did not want to lend to unknown borrowers from the countryside. Larger share of resources was then used to buy government bonds and improving liquidity position [Catao, 1997].

Figure 2-7. Net public borrowing from domestic banks relative to private sector credit



Source: own calculations based on IFS data

ical and economic policy related situation. There were uncertainties concerning short-term fiscal policy, enhanced by the incoming presidential elections (on the May 14th). As the election system changed, the incumbent president needed over 50% of votes to avoid the second round. There was no IMF program in place at this time [D'Amato et. al, 1997].

Towards the end of April, the central bank charter has been changed slightly to allow a more flexible use of rediscounts in order to help banks. This move was misinterpreted as a relaxation of the currency board regime. Moreover, there have been spreading rumors about the possibility of suspending convertibility of bank deposits [D'Amato et. al, 1997].

The monetary operations of the BCRA linked with the announcement of the new fiscal package after an agreement with the IMF, stopped the fall of deposits during the period between March and May 1995. The IMF, as well as other international institutions promised a significant amount of financing [6] [D'Amato et. al, 1997]. And indeed, there has been net inflow of \$1.9 billion until the end of the year.

The dynamics of the recovery of deposits after May 1995 varied according to their types. First of all, this recovery can be attributable mainly to the dollar deposits, as the time was needed to restore confidence in the

domestic currency. Secondly, the quickest response came from the deposits of the large national public banks, and then from the foreign banks. These groups of banks were the first to start regaining their deposits. The cooperative banks and interior banks still suffered the largest fall in deposits in mid-1995.

The immediate response of the monetary authorities to the crisis situation was primarily directed towards improving the liquidity of the banking system. The authorities lowered reserve requirements and provided troubled banks with fresh credits (thus depleting the reserves of the BCRA in April-May 1995) through swaps and rediscounts of prolonged maturity. This was allowed due to the already mentioned modification of the central bank charter. The BCRA acknowledged rediscounts beyond 30-day window in case of systemic liquidity problems [IMF, 1998]. Two Fiduciary Funds were created: one to facilitate mergers and acquisitions within the private banking sector, and the other to foster the privatization of both provincial banks and firms [Burdisso et. al, 1998]. The temporary safety net redistributing the liquidity within the system and controlled by the largest national banks was created, as well as a privately managed deposit insurance scheme. This deposit insurance system was founded with compulsory contributions of financial institutions as a surcharge on deposits. The scheme has

[6] On April 6, 1995, the IMF approved the fourth year extension of the extended Fund facility (EFF) for Argentina. The three-year EFF, approved initially in 1992, was supposed to support Argentina's medium-term economic and financial program. With the extended program, in April 1995, about US\$1.6 million was immediately available to Argentina, and the rest (US\$1.2 million) have been disbursed in three quarterly installments. One year later, the IMF approved a stand-by credit for Argentina of about US\$1 million over the next 21 months, in support of the government 1996-1997 economic and financial program [IMF, 1995 and 1996].

an upper limit per depositor in order to hamper moral hazard [IMF, 1998].

As the confidence in the banking system was restored, deposits kept mounting, and the interest rate spreads started to decline, the government commenced the introduction of new prudential measures. Generally, these measures were aimed at further raising the liquidity of financial institutions, capital to assets ratios, addressed still existing information asymmetries in the credit market, and improved the existing payment system [IMF, 1998].

In 1995, the reserve requirements were still being replaced by liquidity requirements, with rates depending of the residual times of maturity [7] [BCRA, 2000]. These requirements have been gradually tightened over time by increasing their rates [8] and extending their applicability to other types of bank liabilities. The purpose of this move was to improve the public perception of individual banks' liquidity position and limit imprudent lending policies as there is evidence that the public discriminated against "good" and "bad" banks on the basis of their perceived liquidity position during the Tequila crisis.

Between 1996 and 1997, the authorities further strengthened banks' capacity to withstand liquidity shortages by the creation of a contingent repo facility between the BCRA and a group of 13 major international banks. This agreement allows to swap a collateral – Argentine government securities owned by the central bank or by domestic financial institutions – for up to \$ 7.3 billion in cash [IMF, 1998]. Capital to assets ratio was further increased by the incorporation of a new weighting system that takes into account market risk factors, as well as by the increased role of the regulator of banks. There were also steps towards the improvements in the information about debtors available to financial institutions (addressing adverse selection problem), as well as about individual banks. There were also significant improvements in the functioning of the payment system, which today consists of a real-time gross settlement scheme and three automated clearinghouses [Pou, 2000].

It is claimed that the "second set" of prudential measures significantly improved the liquidity of the system, as there was no system-large run on banks during the Brazilian crisis.

## 2.4. Post-Crisis Developments

Domestic financial markets have grown visibly since 1994. Some indicators, such as monetization or stock mar-

ket capitalization, show gradual improvement. Nevertheless, the rise of private sector credit has been constrained for a long time. Credit to the private sector has basically did not recover until only very recently.

The banking system increased significantly, and became generally healthier. Regulations implemented after the 1995 reduced its exposure to external shocks. As a result of consolidation within private banks, privatizations and closures, the number of banks declined to 119 in 1999. Several smaller, provincial banks, which were not transparent and suffered during the 1995 run, have been privatized. Non-performing assets in the banking sector decreased significantly. They accounted for 8% of total assets in private banks and for 13% in public banks in 1997.

There is a need for further fiscal adjustment. The supply-side rigidities should be addressed, so that external shocks will not affect the real economy as quickly as in 1995.

The public sector is still running large deficits which is a problem. It is argued that around 1% of GDP of these deficits per year can be attributed to the pension reform, effective since 1996, and thus should improve future efficiency. Nevertheless, as the external conditions hardened again in 1998–1999, public sector deficits went up to over 4% of Argentine's GDP.

The country risk still remains high and was increasing during the Asian, Russian, and Brazilian crises. The ratio of broad money to GDP – although growing over time – is low by international standards. Similar to the Argentine country risk, also interest rates were rising in response to the recent currency crises. Although the increases, which took place in 1998 and 1999, were significantly lower than during 1995, the rates stayed high for a long period, and finally soared in 2000.

The high interest rates in the period of 1999–2000 reflect significant decreases in consumer and business confidence, and the progressive hardening of the borrowing conditions on international financial markets [9] (and hence the suppressed access to foreign borrowing for Argentine investors). The slow recovery from recession affecting Argentine economy since mid-1998, has also been attributable to the impact of fiscal tightening on domestic demand, the political uncertainties (new government taking office in 1999) reflecting doubts about the course of economic policy, and the downturn of trading partner demand.

Argentine GDP fell by 3.4% in 1999, and according to the preliminary data, by 0.2% in 2000 [IMF, 2001]. There has been consumer price deflation, and the significant fall in

[7] Higher for shorter residual time of maturity.

[8] To reach 20% of most banking liabilities in 1998; the rate substantially higher than in other countries of the region.

[9] High U.S. interest rates, and reduced access to international financial markets for emerging economies in general.

export volume. Trade balance improved in 2000, but mainly as a result of suppressed imports. Domestic investment fell to 16% of GDP, and domestic savings – to less than 13% of domestic production. External public debt reached 32% of GDP in 2000, and public finances deteriorated. To ease the government financing constraint, the authorities have secured a financial support package of about US\$39 billion, including an augmented stand-by agreement with the IMF, credits from the Inter-American Development Bank and the World Bank, and a loan from Spain. The authorities plan to enforce a program aimed at promoting private and public sector investment, ensuring fiscal sustainability, and reduce the public debt burden in the medium term. GDP is projected to grow above 2% in 2001.

On the positive side, there was no full-scale run on banks during the recent episodes of financial turbulence in the emerging markets. And, in aggregate, there was neither a loss of deposits, nor a loss of credits when looking at the annual data – although their growth has slowed markedly. Even though these recent crises precipitated the recession, there was neither international, nor domestic capital flight from the banking system. The result of a financial stress test indicates that Argentinean banks appear to be well insulated from the interest rate risk. In April 2000, they were found able to withstand a flight of deposits of an amount twice as large as in 1995 [IMF, 2000].

Coming back to the Tequila crisis, the main factors responsible for spreading out the 1995 crisis seem to be, in their majority, addressed. However, there is still a need to further deepen financial markets, as well as to broaden the role of the private sector. As the developments that took place in 1999–2000 showed, fiscal-side reforms need to be addressed, if the country wants to emerge on a sustained growth path while maintaining the currency board regime. Similarly, the labor market reforms should be implemented to allow for more flexibility.

## 2.5. Conclusions

There is evidence that the 1995 Argentine financial crisis coexisted with weak credibility of the currency board and risk-averse investors. A calibration of a model of contagious currency crisis to Argentine data done by Choueiri (1999) shows that if we are to believe that investors were sufficiently risk-averse, this financial turmoil could be attributed to the Tequila effect from the Mexican devaluation alone. Moreover, the economic fundamentals of Argentine economy did not matter in triggering the crisis [Choueiri, 1999].

Although there were speculative attacks on the peso, Argentina did not devalue the currency. Instead, the monetary authorities depleted its exchange reserves, and real interest rates rose. This situation matches the definition of

a currency crisis given by Eichengreen, Rose and Wyplosz (1994). The currency crisis occurred, although there was no change in the nominal exchange rate. As a result of currency pressures, the bank runs followed.

The characteristics of the 1995 Argentine crisis are perfectly captured by the second-generation theoretical models of the currency crises. Speculations about the possible devaluation of the Argentine peso increased the probability of this devaluation. The authorities were then facing a choice between short-term and long-term economic goals. The government had reasons both to abandon the peg and to defend it, but the latter only at a certain cost. Finally, the currency pressure was not directly related to economic fundamentals.

The interesting question is what would happen if the monetary authorities decided to devalue the peso. First of all, it should be noted that Argentina, with its high external debt stock, was financially fragile. Large real depreciation would have surely risen country risk premium. From this point of view, if the devaluation had taken place in 1995, it would have had destabilizing effects, to the financial system in particular.

On the other hand, as the real exchange rate was depreciating gradually following the crisis, real interest rates stayed high for long, thus adversely affecting investment and output. It is then tempting to assume that if a country had decided to devalue, the current output and employment would not have fallen as much as they did in 1995. However, is it a possible outcome? Firstly, it should be remembered that when the crisis hit, it aggravated the already existing problems in the banking sector, and in the whole economy in general. As the experience of some of the East Asian countries indicate, devaluation does not have to be an immediate remedy, when the real-economy problems lie in the lack of transparency of the banking and enterprise sector, even when domestic financial market is relatively well developed. There is also a problem of an initial overshooting. And output may fall as well in such situation. Secondly, Argentine GDP started to rise during the year following the crisis, and its growth rate has been impressive. It should be remembered, that the Argentine economy has been growing, on average, by 4.7% during the period 1991–1999 notwithstanding two recessions [Pou, 2000].

To sum up, it is hard to believe that the Argentine economic performance would have been better if the authorities devalued the currency in 1995. The credibility of the anti-inflationary policy would have been destroyed and the country risk would have been much higher, indicating higher vulnerability to subsequent external shocks. Besides, there were positive changes in the Argentine banking system brought about by the crisis and by the decision to continue the existing exchange rate policy. It is also doubtful, whether the real economy response would be much different than it was in 1995.

## Appendix: Chronology of the Argentinian Crisis

December 1994	Devaluation of Mexican peso
December 1994 - February 1995	<i>International:</i> growing perception about Argentina country risk by international investors; outflow of portfolio capital; prices of the Argentine debt start falling <i>Domestic:</i> shift to quality in the banking sector (deposit portfolio reallocation towards dollar deposits and larger banks); fears that the fixed exchange rate regime may be abandoned
February 1995	BCRA (central bank) slightly changes its charter to allow more flexible use of rediscounts to aid banks
End of February 1995	Rumors that the authorities are contemplating suspending convertibility of deposits; Full scale run on deposits
1-22 March 1995	All banks losing deposits The authorities more actively helping banks – BCRA losing 41% of its foreign reserves, reducing the monetary base coverage by 20% Creation of the two Fiduciary Funds to facilitate mergers and acquisitions between private banks and to facilitate privatization of small provincial banks
April 1995	Amendment in the central bank charter which allows more flexible help in providing liquidity to troubled banks in an emergency situation
March-May 1995	Agreement with IMF about significant financial support and the announcement of a new fiscal package Deposits of largest banks stop falling
May-December 1995	BCRA rebuilds its exchange reserves and introduces new set of prudential measures Falling interest rate spreads Mergers and acquisitions in the banking system Gradual recovery of deposits

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## Part III.

# The 1997 Currency Crisis in Thailand

## by Małgorzata Antczak

### 3.1. Introduction

The financial turmoil that erupted in Thailand in 1997 did not fit into any group of models of financial crises existing in the economic literature at that time. It is just recently when researchers tried to develop the so-called third generation models. The Thai experience is an example which confirms that financial crises occur when macroeconomic as well as microeconomic fundamentals experience vulnerabilities.

This paper seeks to explore the country-specific factors lying behind the Thai financial crisis. It provides analysis of macroeconomic and microeconomic roots of the crisis. It shows that while macroeconomic imbalances played an important role, the close relationship among banks, corporations and the government created additional problems, which resulted in many bankruptcies and led to a sharp and unexpected economic downturn. The financial crisis contributed to a sharp contraction in domestic demand and activity. Also, the paper describes the sequence of the crisis and its management.

Having relatively strong macroeconomic fundamentals (excluding a deteriorating current account balance, falling investments and some foreign exchange reserve indicators) the Thai authorities did not face any dramatic external shock as in the second-generation models. In Thailand, as in all Asian countries there was a boom-bust cycle in segments of the asset market (stocks, land prices, and real estate) preceding the currency crisis.

Starting from the late eighties, prudent macroeconomic policies have supported a period of rapid economic growth and price stability in Thailand. However, in recent years the combination of a fixed exchange rate (which was linked to a basket of other currencies but with a strong dominance of the U.S. dollar), an increasingly open capital account, and impressive economic growth, attracted short-term capital inflows. These inflows were often channeled to over-invested sectors

due to weak prudential regulations in the banking sector enhanced by risky investments and poor corporate governance [1]. The huge amount of short-term investments left the economy vulnerable to sudden shifts and external shocks.

These began to materialize in 1996 as a sudden drop in exports led to a high current account deficit. At the same time, slowing economic activity and a weakening in the financial position of banks and finance companies led to debt-servicing difficulties and an increase in non-performing loans (NPLs). Starting from May 1997, the Thai currency market was destabilized by a series of currency attacks of increasing intensity. The Thai authorities attempted to defend the baht by increasing short-term interest rates and intervention in the market. As a result, the Bank of Thailand reserves were depleted, to significant extent, and the baht depreciated sharply.

From the beginning of the crisis, economic policies have been progressively strengthened through: suspension of unlivable finance companies, expenditure cuts in the central government budget, and an increase in the central bank interest rates. Probably the most important action was a change in the Thai exchange rate regime, effective on July 2, 1997, from the so-called fixed but adjustable peg to a managed float. Building on these steps, the government developed a comprehensive medium-term economic policy package, which was implemented with the help of the IMF. It was focused on the stabilization of the currency and strengthening of the financial system.

### 3.2. The Way to the Crisis

Simplifying the classification, the economic fundamentals can be divided into two broad categories: macro and microeconomic. At the onset of the crisis, macroeconomic fundamentals in Thailand remained relatively sound and did not show many signs of vulnerability.

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[1] Recent literature, which emphasizes weak banking and financial sectors as one factor in currency crisis, includes Chau-Lau and Chen (1998), Chang and Velasco (1998), Krugman (1998), and Marshall (1998).

**Table 3-1. Basic macroeconomic indicators for Thailand**

	1981-1994	1994	1995	1996	1997	1998	1999
Real GDP Growth	8.5	9.9	8.9	5.9	-1.8	-10.0	4.0
CPI Inflation average	3.8	5.1	5.8	5.8	5.9	8.5	5.8
Fiscal Balance to GDP Ratio*	-0.6	1.9	3.0	2.4	-0.9	-2.4	-1.1
Private Sector Credit to GDP Ratio		90.9	97.5	100.0	122.5	115.1	
Current Account to GDP Ratio	5.3	-5.5	-7.8	-7.8	-2.0	12.7	9.0
Financial Account to GDP Ratio		8.4	13.0	10.5	-11.3	-13.0	
Gross National Savings to GDP Ratio		35.5	35.6	33.2	31.9	31.1	30.1
Gross Domestic Investments to GDP Ratio		41.38	43.3	43.7	33.6	19.0	20.4
Broad Money Monetization** (in percent)		71.0	72.2	75.4	85.9	99.0	

Source: Own calculations on the basis of data from the IMF, The World Bank

\* Central budget balance (percentage of fiscal-year GDP)

\*\* Monetization of an economy is defined as a ratio of a measure of money to an annualized value of GDP at current prices.

In the mid 1980s, Thailand's economy embarked on a decade of rapid economic growth. From 1981 through 1986 growth had averaged 5.5 percent. But from 1987 through 1995 the growth rate almost doubled, averaging close to 10 percent per annum. The acceleration of economic growth was primarily investment-led and the Thai economy experienced a significant shift in the composition of production. Thailand became a more industrial economy while the agricultural share of GDP fell by half from 1980 to 1996. Manufacturing production and non-tradable sector of construction, finance and real estate offset this. The expansion of investment provided the counterpart for these changes. In late 1980s, investment growth rates exceeded 20 percent per annum, almost doubling the growth rate of the economy. In the 1990s investment growth rates were rising more in line with overall GDP rates of growth and the share of investment stabilized at the level of 40 percent of GDP.

In the early 1990s, inflation measured by CPI was under control and stabilized at the level around 5.8 percent per annum. The price stabilization led to a gradual decline in nominal interest rates. Demand for high-powered money in Thailand was relatively stable and broad money monetization was increasing (Table 3-1), amounting

to 86 percent of GDP in 1997. The central budget indicated a surplus of 2.4 percent of GDP in 1996. The unemployment rate was very low at 1.1 percent during 1993–97. Investment and saving rates were high, averaging at the level above 30 percent of GDP. The exception to the favorable economic outlook was a deteriorating current account deficit, which rose to 7.8 percent of GDP in the years 1995–96 and was mostly covered by short-term portfolio investments.

The deficit reflected private-sector demand for foreign capital. In the 1980s Thailand's priority was large net capital inflow promotion, through tax and institutional reforms (see below) while concurrently developing its financial markets [2]. Large positive interest rate differentials and a pegged exchange rate supported this policy. This regime provided a guarantee to short term investors that they can make a quick exit at little or no cost. Authorities' measures to attract foreign capital included:

- Elimination of restrictions on foreign investments,
- Elimination of most barriers on foreign ownership of export oriented industries [3],
- Granting tax incentives to foreign mutual funds and investments in the stock market
- Creation of closed-end mutual funds,

**Table 3-2. Net capital inflow to GDP Ratio (in percent) and nominal interest rate differential in Thailand**

	1992	1993	1994	1995	1996	1997	1998
Net Capital Inflow	8.5	8.4	8.4	13.0	10.5	-11.3	-13.0
Differential of Interest Rate	5	5.5	4	4.5	4.8	3.4	-0.4

Source: Own calculations on the basis of data from IFS

[2] In 1992, the authorities approved the establishment of the Bangkok International Banking Facility (BIBF), which greatly eased access to foreign financing and expanded short-term inflows.

[3] Some limitations on foreign ownership were retained in non-export oriented industries and on the maximum foreign ownership of companies listed on the stock exchange.

– Establishing rules for foreign debenture issues by Thai companies,

– Reduction of taxes on dividends remitted abroad.

The promotion of capital inflows combined with a rapidly growing economy contributed to very substantial net capital inflow to Thailand in the range of 9–13 percent of GDP between 1989 and 1995. Between 1991–1996, net capital inflows amounted to 85 billion U.S. dollars.

The composition of capital inflows evolved, as a growing proportion of the net inflows had short-term nature (portfolio and other investments), reaching 95 percent of the total in 1995 (Figure 3-1). Net direct investment inflows played a bigger role at the beginning of 1990s reaching its peak in 1993 at the level of 15 percent of total inflows. However, net portfolio inflows became more important in 1994, as a result of the mentioned subsequent reforms of the Thai stock markets and the large interest rate differential. The contribution of foreign direct investments to a total capital inflow stabilized at the level of 5–7 percent in 1994–1996. The continuation of short-term capital inflow kept the overall balance of payments in surplus helping to fuel investments and economic growth. Net capital inflow used to be partially sterilized. In practice, the sterilized intervention maintained high domestic interest rates and a large wedge between domestic and international interest rates. It attracted foreign capital even more.

### 3.2.1. Macroeconomic Signs of Vulnerability

There were already signs of Thailand's vulnerability before the crisis. The main macroeconomic indicators signaling a crisis were: the level of official international reserves, deterioration in investment, high current account deficit and excessive credit expansion.

Although the official foreign exchange reserves increased by 183 percent between 1990 and 1996, they were not sufficient to protect against speculative attacks in the context of an increasing current account deficit and short-term external debt payments.

Although the level of reserves did not indicate the danger of a currency crisis, the reserves to short-term debt ratio was much less favorable. In this respect, Thailand represented one of the weakest records [Jakubiak, 2000], with international reserves below the country's short-term debt obligations. Three months before the crisis, the ratio of reserves to short-term external debt indicated the 1.1 coverage of short-term obligations, two months before the crisis it fell below 1, and in July 1997 it amounted only to 0.7. The value of this indicator in Thailand showed that reserves did not exceed official and officially guaranteed short-term debt in the pre-crisis period.

Another important indicator is the ratio of international reserves to base money. Thailand recorded relatively safe levels of backing in the years prior to the crisis, but substantially lower during the last months preceding the crisis. The ratio of reserves to base money was falling from about 2.5 in July 1996 to 1.5 in the time of crisis in July 1997 what indicated the increasing financial fragility of the economy.

Over-investment and excessive capital accumulation accompanied the years of rapid growth in Thailand. In 1996, investment growth slowed, falling to little less than 7 percent compared with an average of more than 10 percent growth per annum during the previous five years. Private investment grew by only 3 percent, reflecting signs of excess capacity and earlier over-investment. In 1997, the overall investment to GDP ratio declined to 33 percent from 43 percent of GDP in the previous year. The declining investment contributed to the output contraction during the onset of the crisis.

An excessive expansion of the non-tradable sector, particularly in the real estate and construction activities played a crucial role in the investment break down. In the pre-crisis period all sectors of the economy were growing rapidly. Private investment in construction grew rapidly during 1990–94 and it took up to 50 percent of total fixed investments. The public investment in construction grew at 25 percent on average, twice higher than the private investment in construction. Much of the office construction in the commercial sector was built not by professional property

Table 3-3. Reserves in months of imports in Asian Countries

	1992	1993	1994	1995	1996	1997	1998
Indonesia	3.3	3.0	2.4	2.6	3.1	5.5	5.4
Korea	1.9	2.0	1.7	2.0	2.4	3.1	4.1
Malaysia	3.3	3.4	4.3	3.3	3.3	4.3	3.7
Thailand	4.5	4.1	4.0	4.8	6.8	8.0	6.8

Source: Own calculations on the basis of data from IFS

Traditionally, three months of imports' coverage is considered a minimum threshold of official foreign exchange reserves. The East Asian countries, apart from Korea, recorded relatively safe reserves to imports ratio in the 1990s (Table 3-3). This relates particularly to Thailand.

developers, but by companies itself and for their own use.

In the pre-crisis period, overall private credit was growing rapidly (Figure 3-4). In particular, this related to loans to the real estate and housing projects carrying out by financial companies. Many of these loans were turn to non-perform-

ing, and financial companies lost their solvency, what indicated clear evidence of over-expansion of property sector credit.

In the period of 1985–95, Thai exports grew on average by 23 percent per annum. For much of this time, the growth exceeded the average of its regional competitors (Indonesia, Korea, Malaysia, and the Philippines). However, rapid export growth came to an abrupt halt in 1996 – it was a serious warning that the Thai economy was vulnerable to a disruption. Export growth rates declined sharply and turned negative in both value and volume terms. The main external factors behind the fall in exports in 1996 were declining competitiveness, slower demand growth in partner countries, and real exchange rate appreciation starting in early 1995. The appreciation of CPI based real exchange rate of baht versus U.S. dollar was not very much visible, because of the peg to a dollar and CPI inflation in Thailand was not significant in the pre-crisis period.

In 1996, however, the yen depreciated strongly in nominal terms against the U.S. dollar while Japan played a major role in Thai trade (first place in imports and second in exports). Thus, the baht appreciated by 8.5 percent in real terms between end-1994 and end-1996 against the yen which reflected a loss in international competitiveness in the major export market. The result was sharp contraction of Thai exports and a further increase in the current account deficit, to almost 8 percent of GDP in 1996.

However, structural (internal) factors also played a role in the export slowdown, including slow adjustment toward more capital-intensive and high-tech products. Thailand lost market share in labor-intensive products, such as garments and footwear, to lower-wage countries, including China and India. The labor-intensive exports declined by 21 percent in 1996. Meanwhile, high technology products such as computers, electronic motors faced increasing competition of Korea, Singapore, Taiwan, Malaysia, and Hong-Kong, showing greater convergence in their export structures. Export volumes of these goods fell by 8 percent in 1996.

The large current account deficit, coupled with changes in the export structure, and the perception that a currency is overvalued led to a balance of payments-type crisis.

The industrialization strategy implemented in Thailand fuelled by the financial system liberalization and massive capital inflow resulted in rapid increases in private sector borrowing. Most loans were short-term and denominated in

foreign currency. The Thai borrowers preferred borrowing in U.S. dollars at short-term interest rates, even to finance long-term projects because it was cheaper than borrowing in bahts. Thailand's foreign debt rose to the level of 50 percent of GDP, of which 80 percent was private-sector borrowing. The public sector borrowing played a minor role.

From 1995 to 1996, the growth rate of private credit averaged well above 15 percent, or twice the rate of real GDP growth. In the middle of 1997, the private credit expansion accelerated, reaching its pick in January 1998 of 25 percent per annum.

The fact that raised loans were invested in the risky business of declining rate of return (for discussion on efficiency of investments and profitability of the corporate sector – see the next section) led many of them to become non-performing, putting an extraordinary burden on the banking sector.

### 3.2.2. Microeconomic Signs of Vulnerability

Apart from macroeconomic indicators, the weakness of both the financial and corporate sectors appeared to be crucial in determining the crisis development in Thailand.

The difficulties faced by Thai corporations have their roots in the over-investment that took place in the years leading to the crisis. From 1987 to 1995, growth of real fixed investment averaged almost 16 percent, as compared with a real GDP growth rate averaging 10 percent. As noted in the previous section, the acceleration in investment took place in the late 1980s when investment growth rates increased at the rate of 20–30 percent per annum. The result was a rise in the investment-to-GDP ratio to around 40 percent. In the first-half of the 1990s, investment growth moved in line with a real GDP growth. However, with the capital-output ratio steadily increasing, it became inevitable that diminishing returns to capital would put under question the sustainability of this particular investment-led growth strategy. One clear symptom of this was the decline in capacity utilization before the crisis.

This picture of over-investment and declining real rates of return could also be seen in the financial statements of Thai corporations. From 1994 to 1997, the value of assets grew significantly in non-tradable sectors such as construction, communication, and property development. However,

**Table 3-4. Performance of non-financial private corporations in Thailand**

	1994	1995	1996	1997	1998	1999 Q2
Total Loans of Firms Billion Bahts	776	1038	1333	2092	1816	1780
Profits* over Interest Expenses (%)	6.1	4.4	3.5	1.0	1.3	1.9
Profits* over Liabilities (%)	24.3	18.9	15.3	7.4	9.5	13.6
Debt to Equity Ratio	1.5	1.7	2.0	4.6	2.8	2.9

Source: Stock Exchange of Thailand. Merrill Lynch

\* Profits are defined as earnings before interests, taxes, depreciation, and amortization.

**Table 3-5. Non-performing loans at domestic commercial banks 1995–99 (percent of total loans)**

	1995	1996	1997	1998	1999Q2
NPLs	8	10	22	48	51

Source: Thailand: Selected Issues. IMF Staff Country Report No. 00/21

the growth in asset values was not accompanied by equivalently high growth of earnings. The return on assets fell by roughly one-third from 1994 to 1996, and as a result stock prices started to go down in the second half of 1996.

The consolidation of companies' ownership in Thailand was very strong. In the ten largest non-financial private sector firms, the top three shareholders owned on average as much as 45 percent of the outstanding shares. The desire of the owners to retain control of their conglomerates led them to use debts to finance their expansion. Large capital account liberalization facilitated this expansion, by increasing the supply of funds to corporations. As a result, by end-1997 the corporate sector held debts of approximately 153 billion U.S. dollars (more than 150 percent of GDP), where 123 billion U.S. dollars was financed by domestic banking system, and 30 billion U.S. dollars from abroad [4]. The result of this debt-financed expansion was an increase of debt-equity ratio of corporations from 1.5 in 1994 to more than 2 in 1997.

Several years of strong economic growth – underwritten by rapid credit expansion and large capital inflows – exposed underlying structural weakness of the banking sector, especially under a poor regulatory framework. The financial sector grew rapidly in the 1990s, driven by expansion of finance companies and the banking sector. The investment-led growth of the Thai economy was largely debt financed, which was reflected in the rapid growth of banks' assets. Simultaneously, softening of licensing requirements for finance companies contributed to their expansion. Finance companies tended to focus more on consumer and real estate financing, while banks leaned more toward investment financing, particularly in the manufacturing sector. Banks recorded high profit and their share prices boomed in the period of 1993–97. The interest rate spreads averaged about 6.3 percentage points in this period, which supported bank profitability with return on assets averaging 1.6 percent in this period.

However, belying this positive picture, indicators of underlying weakness in the finance sector started to appear. Both banks and finance companies were heavily exposed to the property sector but the exposure was most acute in the case of finance companies. In 1996, investments of finance companies in real estate and construction amounted to 35 percent of the total credit, while commercial banks invested around 20 percent of their total credit in real estate and

construction. This was particularly worrisome in light of the increasing evidence of over-investment in the property sector. Additionally, substantial share of finance companies' credit was being channeled into the stock exchange, leading to a rapid growth of risk.

Already in 1996, finance companies started to exhibit liquidity problems, illustrated by increasing strains of accrued interest. Although the level of overall non-performing loans was relatively low (12 percent of total at the end of 1996), accrued interests in several banks were higher than average and growing, suggesting that the true NPLs were actually higher and increasing. The first clear sign of trouble occurred in March 1997 when the Bank of Thailand and the Ministry of Finance announced that ten, as yet unknown, finance companies would need to raise capital.

In early 1997, more severe liquidity problems emerged as the economy slowed. Public confidence in finance companies eroded as solvency problems occurred. In May 1997, the Bank of Thailand suspended 16 insolvent finance companies and announced that its creditors are expected to bear part of their losses. During the spring of 1997 the finance sector began to experience a large-scale deposit withdrawals, which lead to massive and secret liquidity support from the authorities to 66 finance companies. This support peaked in August 1997, reaching altogether about 10 billion of U.S. dollars (about 8 percent of 1997 GDP). The deposit withdrawal represented a flight to quality by households and businesses moving their savings from finance companies to large commercial banks.

The banking sector in Thailand also started to show weaknesses. Bank capital was substantially overstated, reflecting reliance on collateral of uncertain value. Anecdotal evidence suggest that banking practices focused heavily on "name" based lending, relying on personal guarantees and collateral to secure loans. These transactions were mostly valued not by independent appraisers what had its picture in bank balance sheets and income. Indeed, while reported NPLs of banks amounted to 11.6 percent of assets, this figure largely included loans that had been non-performing for one year and over, and did not capture the most recent deterioration in asset quality. Many private market analysts estimated NPLs to be at least 15 percent of total banks' loans at that time.

The subsequent deterioration of the corporate balance sheets and adverse effects of the depreciation led to a rapid

[4] These numbers exclude debt instruments such as bills of exchange and commercial papers, and are calculated using an end-1997 exchange rate of 1 U.S. dollar = 47 Bahts

build-up in non-performing loans and decapitalization throughout the whole fragile financial system.

### 3.3. The Crisis

In 1996 economic growth, exports and investment deteriorated in the face of an appreciating real exchange rate. The current account was in deficit, interest rates were high, and inflation was increasing. Moreover, serious weakness appeared in the financial system due to exposures to the property sector and inadequate loan provisioning. High interest rates to counteract capital outflows aggravated the solvency and liquidity position of many banks and finance companies and resulted in intervention by the authorities to support the financial system.

In early 1997, the baht came under pressure as traders began to doubt the viability of its peg to the dollar. The Thai currency was subject to several speculative attacks in the first-half of 1997 and the central bank intervened actively on foreign exchange markets and imposed capital controls in May 1997. As a result, the official international reserves fell by almost 13 billion U.S. dollars in the first eight months of 1997 (by 38 percent). The fall was continued and the lowest level was recorded in February 1998 when reserves reached the 1994 level.

On July 2, 1997, faced with a banking crisis, a run on the currency, and large reserve losses, the Bank of Thailand floated the baht. The currency fell 10 percent immediately and then weakened further. The baht depreciated by an additional 22 percent against the U.S. dollar during July.

On July 28, 1997 Thailand formally sought IMF assistance. On August 20, 1997 the IMF announced an assistance package of 4 billion U.S. dollars and established a list of reforms that the country was obliged to implement [5].

#### 3.3.1. Managing the Crisis. The IMF Intervention in Thailand

On August 20, 1997, the IMF's Executive Board approved a 34-month Stand-By Agreement with Thailand,

**Table 3-6. Official financing of stabilization program**

	<b>Billion U.S. dollars</b>	<b>Percent of GDP</b>
IMF	4.0	3.0
Asian Development Bank and World Bank	2.7	2.0
Other	10.5	7.0
Total package	17.2	12.0

Source: "IMF-Supported Programs in Indonesia, Korea, and Thailand. A Preliminary Assessment". IMF, Washington DC 1999

amounting to 4 billion U.S. dollars (equivalent of SDR 2,900 million or 505 percent of quota). The adjustment program was aimed at stabilizing the exchange rate and reducing the current account deficit through control of domestic credit, and limiting the rise in inflation. Key elements of the policy package included fiscal policy measures, and financial sector restructuring, including closure of insolvent financial institutions, consolidation of banks, and non-performing loan management.

The program provided for three reviews to be completed during the first year (program targets for September 1997, December 1997 and June 1998). Thereafter, the program was to be subject to two twice-yearly reviews (program targets for end-December 1998, end-June 1999, and end-December 1999). Upon approval of the program, Thailand drew 1.2 billion U.S. dollars from the IMF and received a further 4 billion U.S. dollars from bilateral and multilateral sources.

Additional financing was pledged by the World Bank and the Asian Development Bank (2.7 billion U.S. dollars), which also provided extensive technical assistance. Financial support by Japan and other interested countries (10 billion U.S. dollars) was pledged at a meeting in August, hosted by Japan. Bilateral financing has been disbursed in parallel with the purchases from the IMF. Total official financing of the stabilization program amounted to over 17 billion U.S. dollars (Table 3-6).

In the second half of 1997, the baht continued to depreciate as the contagion in Asia began. While macroeconomic policies were on track and nominal interest rates were raised, market confidence was adversely affected by delays in the implementation of financial sector reforms, and political uncertainty.

By the time of the review under the special emergency procedures (on October 17, 1997), there were also signs that the slowdown of economic activity would be more pronounced than anticipated. And in fact it was. The further depreciated exchange rate put pressure on increase in interest rates, and it resulted in a much sharper decline in private investment and consumption than originally anticipated.

A new government took office in mid-November 1997. The new economic team headed by Prime Minister Chuan reconfirmed the commitment to the adjustment program. To help stabilize the foreign exchange market, the program

[5] A detailed chronology of the crisis in financial sector is given in the Appendix I

was strengthened at the first quarterly review (on December 8, 1997). The new government was determined to take a number of additional measures to support the policy package. With weakening economic activity, constraining revenues, additional fiscal measures were introduced to achieve the original fiscal target for 1997/98. Reserve money and net domestic assets of the Bank of Thailand were to be kept below the original program limits. As a result, indicative interest rates were raised and a specific timetable for financial sector restructuring was announced.

In early February 1998, the baht began to strengthen against the U.S. dollar as improvements in the policy setting revived market confidence. Growth projections, however, were marked down further. Contracting domestic demand helped to keep inflation under control and contributed to a larger-than-expected adjustment in the current account.

The stabilization program was revised significantly at the time of the second quarterly review (on March 4, 1998). Under the revised program, monetary policy continued to focus on the exchange rate, with interest rates to be maintained at high levels until evidence of sustained stabilization emerged. Fiscal policy shifted to a more accommodating stance. In addition, the program included measures to strengthen the social safety net, and broaden the scope of structural reforms to strengthen the core banking system and promote corporate restructuring.

The third quarterly review took place on June 10, 1998 and a marked strengthening of the baht during February-May 1998 was noticed (some 35 percent vis-a-vis the U.S. dollar from the low in January). The revised program was on track, but with real GDP projected to decline 4–5 percent in 1998 and inflation subdued, further adjustments were made to allow for an increase in the fiscal deficit target for 1997/98 from 2 percent to 3 percent of GDP. Monetary policy continued to focus on maintaining the stability of the baht. While the reductions of interest rates since late March 1998 was viewed as consistent with exchange market developments, it was understood that interest rates would be raised again if necessary. Additional measures to strengthen the social safety net were planned, and the program for financial sector and corporate restructuring was further specified.

The exchange rate weakened during June-July 1998 amid growing concerns about the growth outlook, and renewed signs of strains in the financial sector, where growing difficulties in the corporate sector complicated restructuring of financial institutions. Fiscal and monetary policies had been tighter than programmed, economic activity was weaker than expected, and exports had failed to pick up. The large adjustment in the current account (projected to amount to over 10 percent of GDP) reflected a sharp contraction of imports.

The fourth quarterly review (on September 11, 1998) focused on adapting the policy framework to support the

recovery without sacrificing stabilization gains. With output now projected to decline by 6–8 percent in 1998, efforts were stepped up to utilize the scope of fiscal easing provided under the program. Foreign exchange market conditions were relatively stable (in spite of the Russian crisis), providing room for further lowering of interest rates. The program for financial and corporate sector restructuring was broadened significantly, and the structural reform agenda in other areas (privatization, foreign ownership, and social safety net) was strengthened.

As of October 19, 1998, 12.2 billion U.S. dollars from the total financing package for Thailand (17.2 billion U.S. dollars) had been disbursed, including 3 billion U.S. dollars from the IMF and 9.2 billion U.S. dollars from other multilateral (World Bank and Asian Development Bank) and bilateral sources.

During 1999 there were several additional quarterly reviews of the stabilization program. All of them were focused on revitalizing of domestic demand and on the social safety net. The overall public sector deficit was gradually set at the higher level (5 percent of GDP in the fiscal year 1998/99 and 7 percent in the fiscal year 1999/00). These fiscal targets accommodated reductions in revenues (of about 0.5 percent of GDP in 1998/99 and in 1999/00) from the impact of lower-than-expected nominal GDP. The flexible use of interest rate policy to maintain baht stability was reaffirmed, monthly interest rates were lowered and inflation was falling. Growing confidence has allowed interest rates to fall below pre-crisis levels without compromising exchange rate stability. The overall balance of payments outcome was stronger than expected, as a higher current account surplus, reflecting weak domestic demand, carried over to higher than projected reserves.

On May 8, 2000 the Executive Board of the IMF completed the ninth, and final review under Thailand's Stand-By Arrangement. To date, under 17.2 billion U.S. dollars official financing package, Thailand has drawn 14.3 billion U.S. dollars from bilateral and multilateral contributors, including 3.4 billion U.S. dollars from the Fund.

### **3.3.2. Macroeconomic Environment after the Crisis**

The persistence and widening of the current account deficit, over-investment, declining rates of return on capital, and the over-expansion of the non-tradable sector pointed on macroeconomic reasons of the crisis and the need for deep adjustment in exchange rate. In the aftermath of the crisis, Thailand's real effective exchange rate depreciated by 35 percent in the second half of 1997, but subsequently recovered. As of end-1999, the cumulative real exchange rate depreciation was 25 percent. After depreciation Thailand's external current account balance shifted from a deficit

of eight percent of GDP in 1996 to a surplus of more than 12 percent of GDP in 1998. Due to the fall in Thailand's terms of trade and falling dollar export prices, export volume growth exceeded 8 percent per annum in 1997–98. Conversely, import volumes fell dramatically by more than 40 percent from 1996 to 1998, reflecting the weakness in domestic demand and the relative price effect of the devaluation.

Once the full extent of the weaknesses in Thailand's economy became known, including the underlying problems in the financial sector and the collapse of Thailand's international position, financial market confidence vanished. Thailand's pre-crisis problem of persistent and excessive capital inflows was transformed into one of managing major capital outflows, with creditors refusing to rollover short-term debt. As indicated before, investment was falling sharply [6] in the first quarter of 1997 what influenced output contraction. In 1998, the recession widened and real GDP declined by 10 percent. Private consumption also fell markedly. Consumer durables were particularly hard hit, with car sales falling to around one quarter of their pre-crisis levels. As a result of high interest rates and the reduced availability of credit, consumption fell by 13 percent in 1997 and 1998. Another factor responsible for decline in consumption was lowering personal incomes. With the general collapse in domestic demand, unemployment increased and wages declined.

Since January 1998, the rate of private credit growth (adjusted after correcting for changes in valuation due to exchange rate fluctuations) declined steadily (Figure 3-4). Later the growth of credit continued to decrease and was even negative at the rate of 10 percent per annum in January 1999. In 1999 the situation started to improve. And in the end of 1999, the credit started to grow at the rate of 5 percent per annum. However, the volume of credit was still 20 percent below the peak reached in late 1997. This suggests two possibilities. First, that credit-intensity of firms has fallen as firms started to rely increasingly on retained earn-

ings and other sources of non-bank financing or, second, that there has been a shift in the allocation of credit [7].

After the sharp contraction in 1998, the recovery started in 1999. Manufacturing production, which had already bottomed out by the middle of 1998, grew at double-digit rates through much of 1999, and by September 1999 it had surpassed its pre-crisis peak. On the demand side, lower interest rates and improving recovery prospects have stimulated private consumption. This trend was supported by a temporary VAT reduction, which took effect in early 1999. In 1999, Thailand's economy reached the growth rate of 4 percent, which was much more modest than in the past. In 2000, the recovery was strengthened and real GDP was expected to increase by 4–5 percent. If 2000 trends continue, Thailand will recover pre-crisis levels of output and consumption per-capita by the end of 2002 (the IMF estimates). The major contributors to growth continued to be exports (6.3 percentage points) and private consumption (3.4 percentage points).

Total factor productivity (TFP), which began to decrease well before the crisis, became negative in 1996, and bottomed out in 1998. However, since 1999 TFP appeared to start to grow again, helped by structural reforms and cyclical bounce back, and was estimated to grow from 1 to 1.4 percent in 2000 (the IMF estimates).

Exports have done well and have been a key driver of the recovery. In 1999, they grew by close to 9 percent, and were set to grow by 6.8 percent in 2000 (IMF estimates). The U.S. and EU markets contributed to the pick-up in Thai exports. More recently, the exports to Japan and ASEAN countries recovered, and accounted for over 30 percent of total exports in 1999. Nonetheless, there were concerns regarding the competitive weakness of the Thai industry. Skill-intensive activities complained of shortages of high level skilled manpower, and technology-intensive activities remained largely confined to the final assembly stage of operations. More recently, technology intensive exports have increased. Recent data suggest that the growth in

**Table 3-7. Contribution to economic growth in the year 2000 (percent)**

	<b>Growth</b>	<b>Contribution to Growth</b>
Real GDP growth (%)	4.5	4.5
Private consumption	6.4	3.4
Public consumption	4.9	0.5
Private investment	11.0	1.2
Public investment	4.5	0.5
Exports	11.0	6.3
Imports	17.0	-7.5

Source: World Bank. Thailand Economic Monitor. June 2000

[6] While investment fell across the board, investment in construction was especially badly hit, its share fell to 35 percent of the total investment from 50 percent before the crisis.

[7] Some firms have suspended servicing their loans, thereby "obtaining credit" by generating NPLs.

Table 3-8. Contributions to GDP growth (in percent)

	Capital	Quality adjusted labor	TFP	GDP
1995	6.2	1.0	1.7	8.9
1996	5.4	1.8	-1.8	5.4
1997	3.4	2.7	-7.9	-1.7
1998	1.8	1.3	-13.0	-10.0
1999	1.8	1.4	0.8	4.2
2000	1.9	1.6	1.0	4.5
Medium term	2.0	1.6	1.4	5.0

Source: World Bank. Thailand Economic Monitor. June 2000

imports has started to slow down. Imports fell by 17 percent between December 1999 and January 2000 (IMF estimates).

Given projected growth rates of imports and exports, the current account balance was expected to generate a surplus of 7.7 billion U.S. dollars in 2000 (5.3 billion US\$ of the trade balance surplus). On the capital account side, repayments by the private sector were expected to fall from 15.5 billion in 1999 to 9.5 billion U.S. dollars in 2000. This created a cushion to support potential weakness in portfolio flows and foreign direct investment. Gross official reserves increased to 34 billion U.S. dollars at the end of 1999. But in the middle of 2000, the country's foreign reserves stagnated at around 32 billion U.S. dollars [8]. This level was sufficient to cover more than three times the cash in circulation at that time (which approximated 9 billion U.S. dollars and about 400 billion Thai bahts). This level of reserves was an equivalent to 200 percent of debt maturing in the next 12 months, and 6 months of imports.

A second key driver of recovery was private consumption. In 1999, total private consumption grew by 3.5 percent, recovering from sharp contraction in 1998 (-12.3 percent). This growth was broadly consistent with a return of consumer confidence, reflected in an increase in aggregate disposable income resulting from rising wages and higher levels of employment. Inflation remained under control in 1999 and did not create a risk for the economy. The government set an inflation ceiling of 3.5 percent for the year 2000, what was possible to reach.

However, employment data show that the recovery is still fragile. The crisis did not appear to have affected the trend in a significant way. After the onset of the crisis employment was expanding gradually but the unemployment rate was falling at a very slow pace. The February unemployment rate fell from 5.4 percent in 1999 to 4.8 percent in 2000. While the unemployment rate appeared to be modest when compared to European countries, Thailand

has no unemployment insurance system and welfare impact can be severe. However, a review of the adjustments in the labor market showed that wage reductions among less educated workers were less severe compared to the educated workers, suggesting that labor markets protected the less well off (WB Monitor).

Looking back over the two and half years under the Fund-supported program, the successful implementation of macroeconomic policies can be observed. All above-mentioned indicators show that the main objectives of the program have been met. Over the medium term, the key challenge will be to sustain economic recovery in the context of a heavily indebted corporate sector and continued weakness of financial system. The results of corporate debt restructuring are not satisfactory and this process still has some way to go. In order to complete reforms in the financial sector, the speeding up of corporate debt restructuring process is also necessary.

### 3.4. Conclusions

The reasons for the Thai financial crisis were almost exclusively internal [9]. The Thai experience shows that financial crises can erupt not only when macroeconomic but also when microeconomic indicators express vulnerabilities. The Thai crisis can be classified as representing a kind of third generation model, which theoretical backgrounds is still questionable [10]. In early 1997, Thailand faced a canonical balance of payments crisis when a structural misbalance between the deficit in current account and capital and financial account (sources of financing) occurred. In the second quarter of 1997 the authorities defended the baht and international reserves diminished what together with microeconomic problems led to a currency crisis. Once the full

[8] Chase, International Fixed Income Today, 13 September 2000.

[9] The important external factor of the crisis was yen/U.S. dollar exchange rate developments.

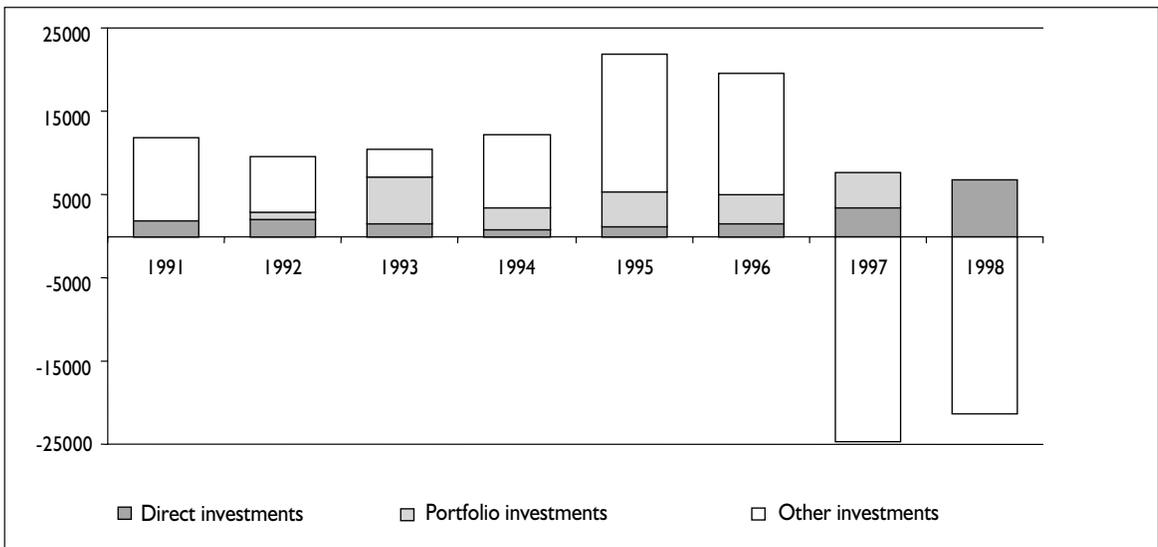
[10] Antczak (2000)

extend of the weakness in Thailand economy became known, including underlying problems in the financial sector, excessive capital account liberalization led to massive withdrawal and to full-fledged financial crisis.

The Thai crisis led to a contagion effect in Asia. These developments changed investors' perception of the Asian Tigers of early 1990s. It contributed to external shocks and the Asian flu infected Korea, Philippines, Malaysia, and Indonesia. The second broad conclusion from this analysis is a fundamental need for an integrated approach to capital liberalization and financial sector reform.

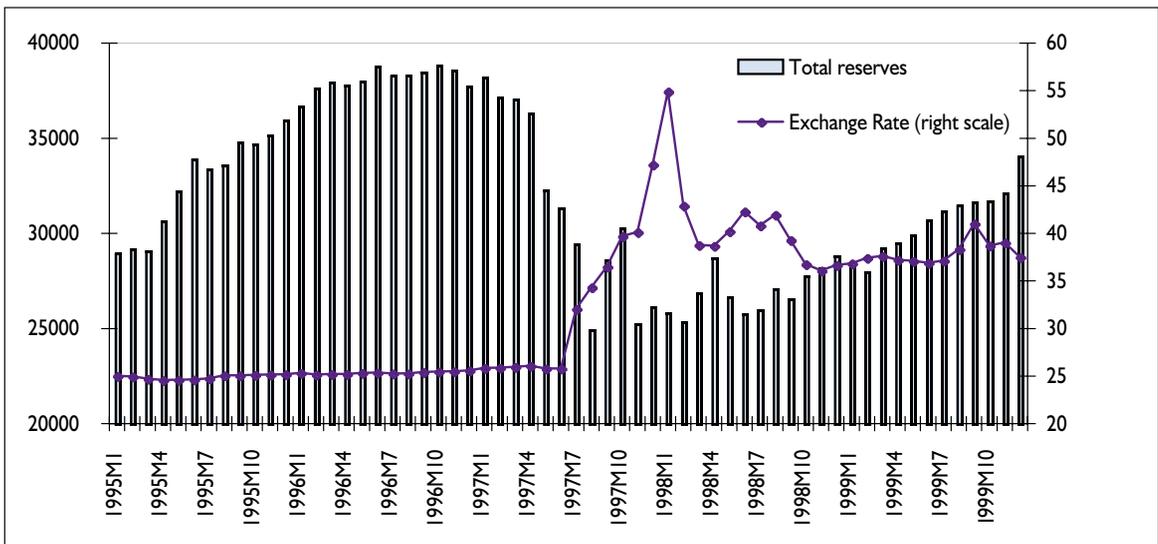
The Thai stabilization program was successful and the economy recovered. The authorities have made progress toward resolving the problems in the financial sector. Banks have raised substantial amounts of new capital, the core banking system remained in private hands, and foreign entry should stimulate competition and improvements in the technology and service. But despite the positive changes there is still a lot to be done, especially in the area of structural reforms.

Figure 3-1. Net Capital Flows in Millions of U.S. Dollars



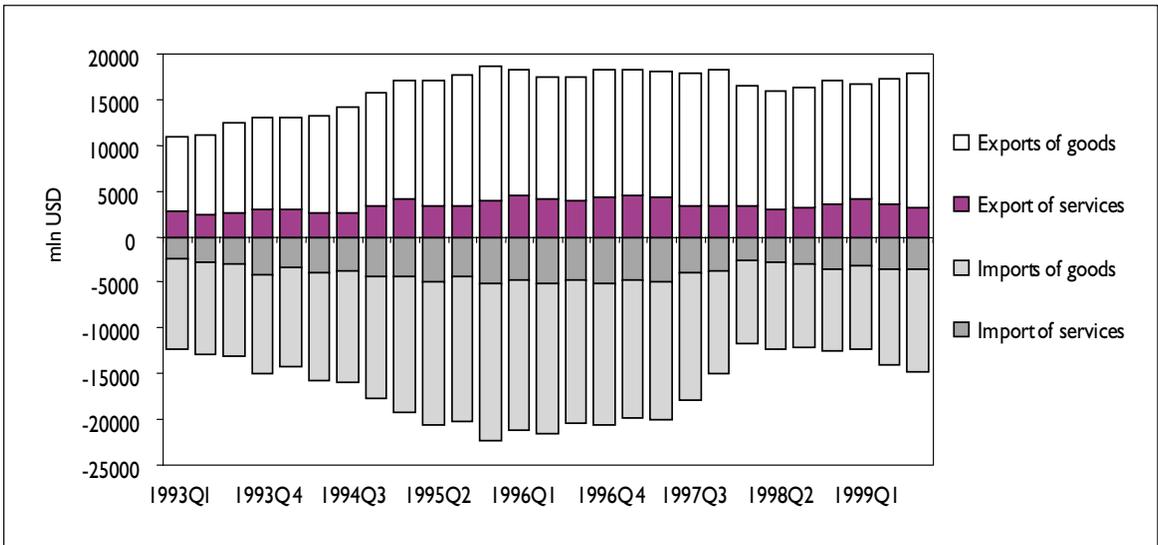
Source: own calculations on the basis of data from the IMF IFS

Figure 3-2. Total Reserves in U.S. Dollars and Nominal Exchange Rate Developments in Thailand



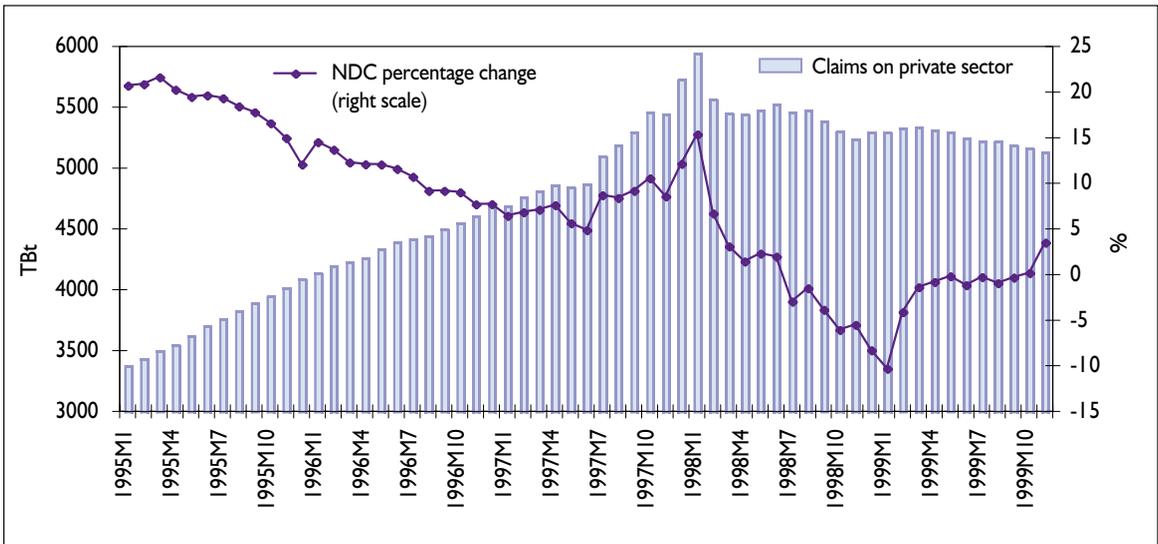
Source:

Figure 3-3. Current Account Structure



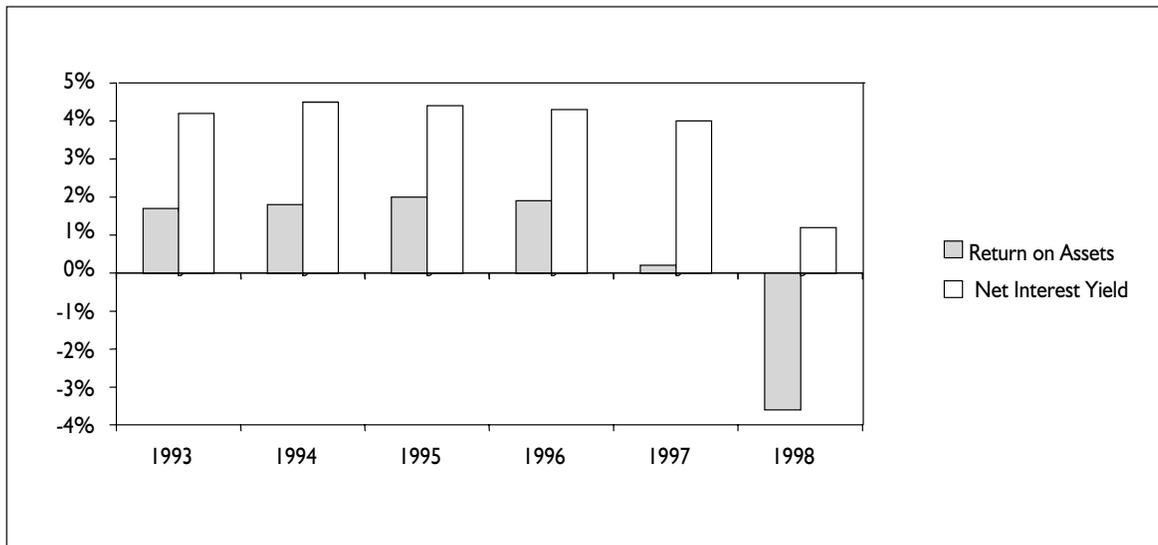
Source: own calculations on the basis of data from the IMF IFS

Figure 3-4. Private Credit Growth Before and After the Crisis



Source: own calculations based on IMF IFS

Figure 3-5. Commercial Bank Profitability, 1993-98 (percent)



Source: Thailand: Selected Issues. IMF Staff Country Report No. 00/21

## Appendix I: Chronology of the Thailand's Currency Crisis

March 1997	First explicit sign of trouble. BoT and MoF announce that 10 as yet unknown finance companies would need to raise capital.
March-June, 1997	Public confidence in finance companies erodes. Deposit withdrawals. Massive and secret liquidity support from the authorities to 66 finance companies.
June 1997	BoT suspends 16 finance companies and announces that their creditors are expected to bear part of companies' losses.
July 2, 1997	The baht is floated, then it depreciates by 32 percent against U.S. dollar during July.
August 1997	In the context of IMF program negotiations, BoT and MoF issue a joint statement detailing measures to strengthen confidence in the financial system.
	Additional 42 finance companies have their operations suspended (altogether 58 out of 91 finance companies) and are given 60 days to present rehabilitation plans to the authorities.
	Government announces blanket guarantee to banks and remaining finance companies backed by unlimited FIDF support (in baht).
August 14, 1997	First Thailand's IMF Letter of Intent.
August 20, 1997	The IMF Executive Board approves a three-year Stand-By Arrangement, amounting to 4 billion U.S. dollars (505 percent of quota).
October 17, 1997	Emergency Financing Procedures by the IMF.
November 25, 1997	Second Thailand's IMF Letter of Intent.
December 1997	MoF announces a closure of 56 finance companies.
	BoT intervention at Bangkok Metropolitan Bank - capital of existing shareholders is written down, management is changed, and the bank is recapitalized by authorities via debt-equity swap.
December 8, 1997	First quarterly review of the policy package. Strengthening of the program, implementation of additional fiscal measures. Indicative range for interest rates is raised, and a specific timetable for financial sector restructuring is announced.
January 1998	First Bangkok City Bank and Siam City Bank are intervened and dealt with the same fashion as BMB in the previous month. These three banks account for about 10 percent of banking system deposits.
	A new state-owned commercial bank, Radanasin Bank, is established in order to take control over the higher-quality assets.
	A majority stake in Thai Danu Bank is acquired by foreign investors (Development Bank of Singapore).
	Baht begins to strengthen against the U.S. dollar as improvements in the policy settings revived market confidence. Contracting domestic demand helps to keep inflation in check and contributed to larger-than-expected adjustment in the current account.
February 24, 1998	Third Thailand's IMF Letter of Intent.
February – May 1998	Strengthening of baht.
March 1998	Agreement on compensation reached with creditors of 42 finance companies under rehabilitation program.
	Cautious reduction of interest rates viewed as consistent with exchange rate developments.
March 4, 1998	Second quarterly review of the policy package. Under the revised program, monetary policy continues to focus on the exchange rate stabilization, with interest rates to be maintained high until evidence of a sustained stabilization emerged. The program includes measures to strengthen financial sector.
March – April 1998	Banks start to recapitalize with many foreign deals. New loan classification and provisioning rules are introduced.
May 1998	Additional 7 finance companies are intervened and merged with KTT (a large government owned finance company).
May 26, 1998	Fourth Thailand's IMF Letter of Intent.
June 1998	Bank of Asia acquired by ABN-AMRO Bank.

June 10, 1998	Third quarterly review of the policy package. International reserves strengthen in the larger-than expected scope, but recession deepens. Adjustment in fiscal policy allows for an increase in the fiscal deficit target for 1997/98 from 2 percent to 3 percent of GDP.
June –July 1998	The exchange rate weakens. Fiscal and monetary policies have been tighter than programmed, activity is weaker than expected, and exports fail to pick up. The large adjustment in current account reflects a sharp compression of imports. Growing difficulties in corporate sector.
August 1998	Union Bank of Bangkok and Laem Thong Bank are intervened.
	Laem Thong Bank is merged with Radanasin Bank.
	Union Bank of Bangkok together with 12 intervened finance companies merged with Krung Thai Thanakit (KTT), the state owned finance company and subsidiary of the state-owned Krug Thai Bank (KTB).
	First Bangkok City Bank is merged with KTB.
August 25, 1998	Introduction of financial sector restructuring package..
August 25, 1998	Fifth Thailand's IMF Letter of Intent.
September 11, 1998	Fourth quarterly review of the policy package. Foreign exchange market conditions are relatively stable (in spite of the Russian crisis), provide room for interest rates lowering to pre-crisis level.
October 19, 1998	As of this date, 12.2 billion of U.S. dollars of total financing package for Thailand (17 billion of U.S. dollars) has been disbursed, including 3 billion of U.S. dollars from the IMF and 9.2 billion of U.S. dollars from other multilateral and bilateral sources.
December 1, 1998	Sixth Thailand's Letter of Intent.
March 23, 1999	Seventh Thailand's Letter of Intent.
April 1999	Establishment of Bank Thai from merger of Union Bank of Bangkok and 12 finance companies.
May 1999	Siam Commercial Bank raises over 1.5 billion of U.S. dollars in new capital.
July 1999	Nakomthon Bank is intervened.
August – November 1999	Auctions and further asset of finance companies sales to the state owned Asset Management Company.
September 1999	Nakomthon Bank is sold to Standard Chartered Bank.
September 21, 1999	Eighth Thailand's Letter of Intent.
November 1999	The sale of Radanasian Bank to United Overseas Bank of Singapore is finalized.
May 8, 2000	The IMF completed Final Review of the Thai stabilization program.

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## Part IV.

# The Malaysian Currency Crisis, 1997-1998

## by Marcin Sasin

### 4.1. Overview

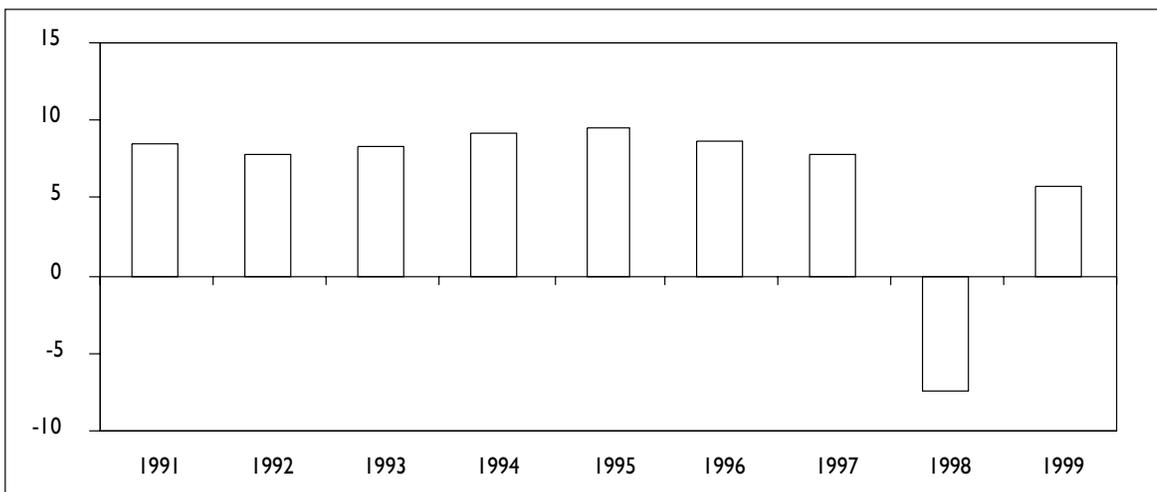
#### 4.1.1. Introduction

Malaysia, a country in Southeast Asia situated in the Malaysian Peninsula, gained its independence from Britain in 1957. Since then, the main political force in the country – the multiethnic National Front (Barisan Nasional) – has won all 10 elections. The key component of the National Front is the United Malays National Organization led by Mahathir Mohamad, who has also been a Prime Minister since 1981. The population of Malaysia, standing at 23 million is 60% Malay, 30% Chinese and 10% Hindu by origin. The economy and politics of Malaysia operates principally along racial lines. The Malays have monopolized the country's politics, they occupy key posts in the administration, military, police,

constitutional bodies etc. Chinese descents have dominated the country's economy and exercise control over 40% of all the nation's economic wealth [1]. The Hindu population is predominantly visible in the labor force. After some dramatic racial tensions in the 1960s, the authorities have introduced so called New Economic Policy (NEP) – its primary goal has been "accelerating the process of restructuring Malaysian society to correct economic imbalance so as to ... eliminate the identification of race with economic function... and the creation of a Malay commercial and industrial community... Within two decades, at least 30 percent of the total commercial and industrial activities ... should have participation by Malays... in terms of ownership and management" [2].

Uniform political leadership and social consensus granted Malaysia a stable environment and allowed it to enter the track of rapid economic growth. The government has been involved actively in large infrastructure projects and other

Figure 4-1. Malaysia: GDP growth (% p.a.)

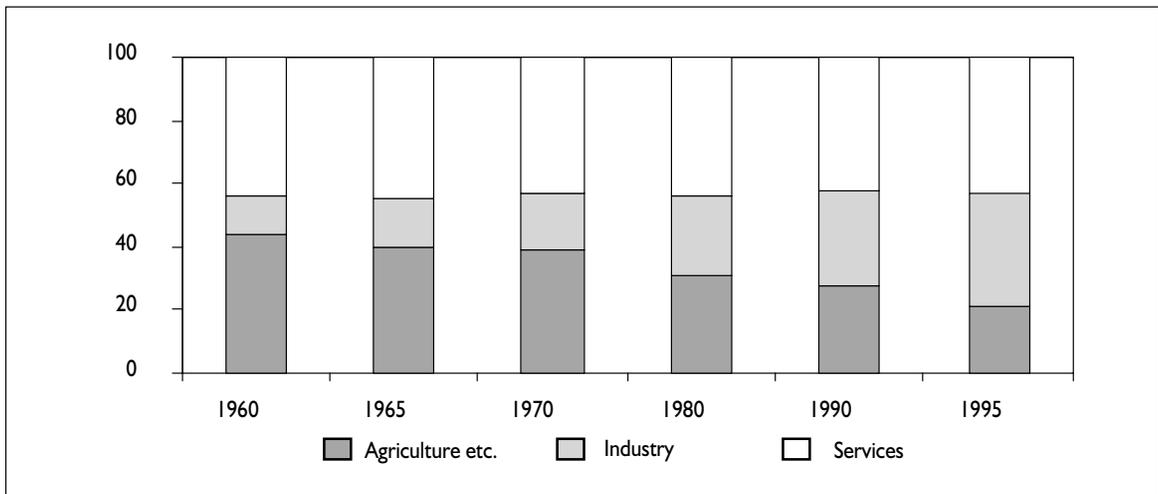


Source: IMF, IFS

[1] Foreigners control over 30% - based on ownership of share capital of KLSE listed companies.

[2] At the times of the formulation of this strategy Malays controlled around 10% of national wealth. The strategy proved partly successful, in 1997 the Malays' share increased to around 20%.

Figure 4-2. Malaysia: GDP by sector of origin



Source: IMF

public enterprises. Industrialization, export growth and investment have been promoted. In the late 1980s, it became clear that purely state-owned enterprises were not efficient enough for further growth – they have been therefore privatized by "corporatization", listing on Kuala Lumpur Stock Exchange and by selling large parts of government shares. Foreign direct investment inflows have been successfully encouraged – between 1989 and 1995 they averaged around 7% of GDP.

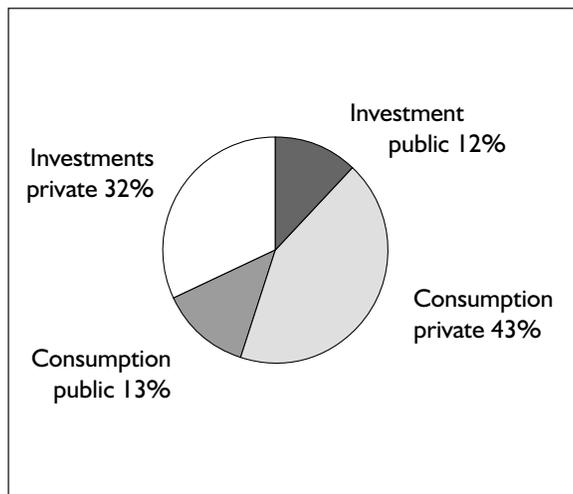
Fast growth was possible thanks to the impressive rate of investment, one of the highest in the world – in 1997 43% of GDP was invested [3]. The rate of savings was also remarkable – in 1997 it amounted to 39% of GDP, private and public saving had more or less equal shares in total savings. In 40 years time, Malaysia managed to transform itself from an underdeveloped, third world commodity exporter to a modern and industrialized country. The share of primary sector (agriculture, mining, fishing, etc.) in GDP was only 19% in 1997. Secondary sector (manufacturing, construction) had a share of 40%, while tertiary sector (services) constituted 41% of GDP.

#### 4.1.2. The Public Sector

In Malaysia, the (non-financial) public sector consists of the federal government, 13 state governments (+2 federal territories), 148 local governments as well as statutory bodies and non-financial public enterprises. The federal government is endowed with revenue collection power over its most important sources (corporate, petroleum and person-

al income taxes and custom duties) and with expenditure responsibilities over strategic domains (state expenditures, infrastructure, etc.). As a result it acquires over 80% of all public revenues and spends around 60% of all the expenditures. Local (and state) governments have narrowly defined responsibilities, i.e. provision of essential civic services to local communities. It derives financing from agricultural and urban taxes, non-tax revenues (like asset sales), and transfers from federal government. The size and influence of rather inelastic local government on fiscal situation is negligible compared to the federal government, which is the only body responsible of implementing fiscal policy objectives.

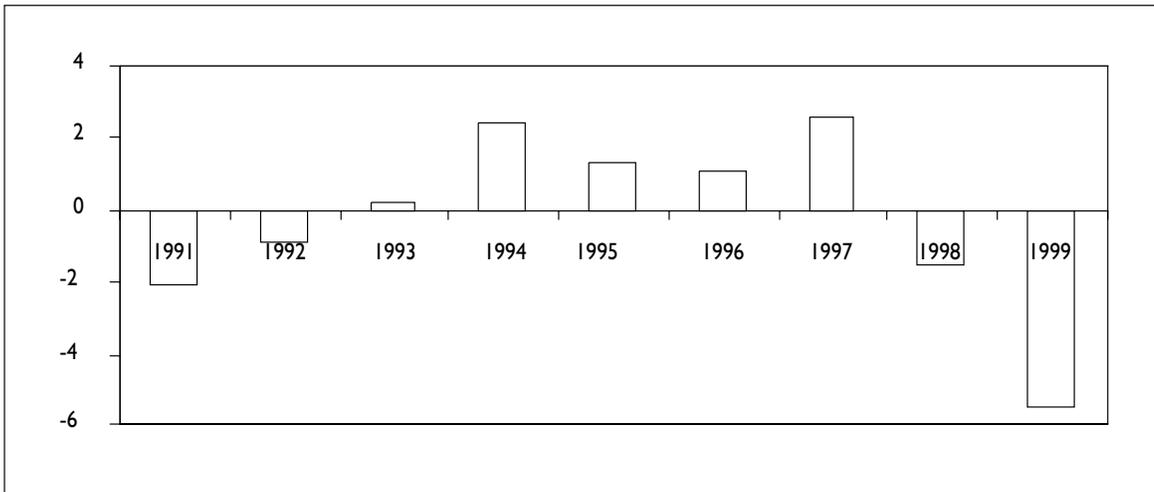
Figure 4-3. Malaysia: Domestic demand components in 1996



Source: IMF

[3] There are suggestions that official measures of investment rate are likely to be upward biased, because part of investment in Asian economies is actually a disguised form of consumption.

Figure 4-4. Malaysia: Federal budget fiscal position (% of GDP)



Source: IMF

Generally speaking, the public sector is relatively small. In 1997, the federal government raised 24% of GDP and spent 21.4% of GDP. For the broad public sector (general government), these figures are 28.7% of GDP and 25.3% of GDP respectively. Direct taxes provide 40% of revenues, the same amount comes from indirect taxes, remaining 1/5 are derived from other sources. On the expenditure side, the budget is divided into current (operative) and developmental parts. Total direct development expenditures in 1997 amounted to 25% of the total budget or 6% of GDP. The importance of public sector in the economy is obscured by widespread use of off-budget accounting, through which significant part of government investment is done – especially in the case of big infrastructure projects. Data related to such actions is limited. In 1998 off-budget spending amounted to around 1.1% of GDP, for 1999 this figure was 1.8% of GDP. Government engagement in large firms (usually previously state-owned) effects in other quasi-budgetary activities like tax concessions and exemptions, lending on favorable terms, etc. with rather unclear consequences for public finance.

Until the mid-1980s, the main purpose of fiscal policy was the implementation of government development objectives. The government became extensively involved in many large-scale non-financial public enterprises – infrastructure

projects, industrial investments, etc. This resulted in excessive budgetary deficits that eventually became unsustainable (reaching as much as 16.6% of GDP) and led to the economic crisis and recession in 1985. Afterwards, the conduct of fiscal policy was altered, with emphasis placed on macroeconomic stability and sustainable growth promotion, and more attention paid to short-term aggregate demand management. Expected budgetary revenues started to be calculated realistically what resulted in somehow strange permanent record of revenue and overall balance underestimation [4]. As a result of the economy overheating from 1992–93, the authorities adopted a rather conservative fiscal policy in order to try to slow down and stabilize domestic demand arising from large capital inflows. As a consequence, from 1993 till 1997, public sector consecutively recorded sizeable budgetary surpluses.

Thanks to consecutive surpluses, the Malaysian authorities succeeded in containing domestic debt – its volume was steadily falling in years preceding the crises. In 1996, federal government debt stood at decent level of 32% [5] and was held primarily in government securities. The broad public sector debt was somehow larger and totaled around 50% of GDP. The external debt of federal government was relatively small at end-1996, and amounted 4.1 billion USD, or around 4% of GDP.

Table 4-1. Federal Government Debt end-1996 (% of GDP)

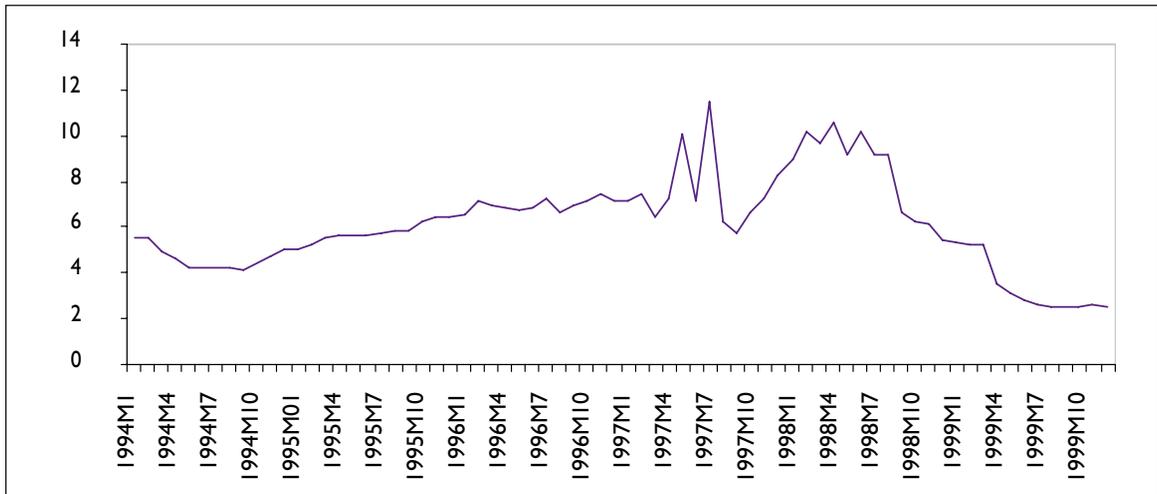
	Domestic	Foreign	Total
	31.7	4.2	35.9
out of which	Gov. securities 25.1	Market loans 2.1	

Source: IMF, Malaysian authorities

[4] For 1990 the budget deficit has been overestimated by 1% of GDP. The same figures for 1991–1994 stand at 2%, 4%, 5% and 3% of GDP.

[5] As a memorandum: central government debt amounted to more than 100% of GDP in 1987.

Figure 4-5. Malaysia: Money market interest rate (%)



Source: IFS

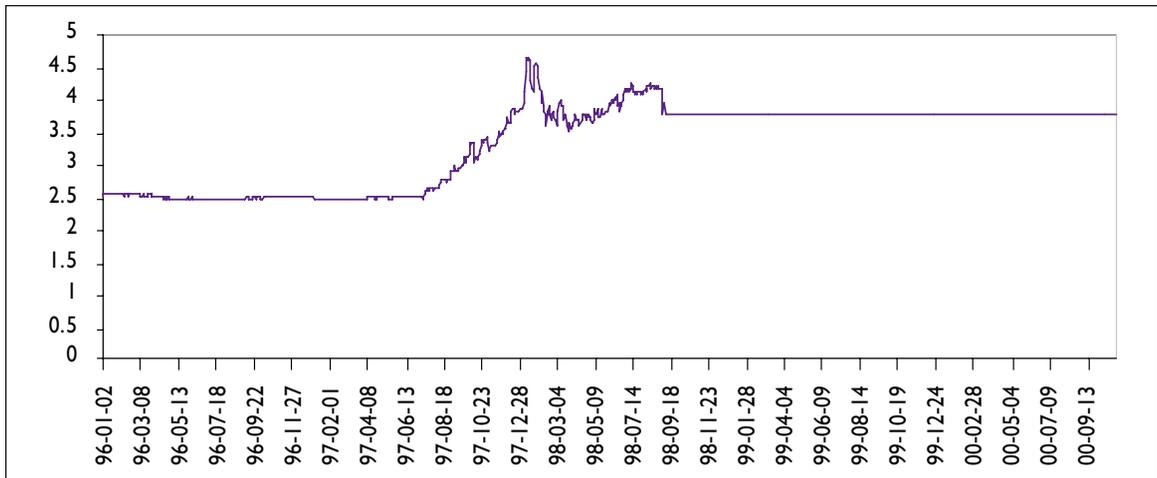
Around half of this came from international institutions and foreign governments, half from market loans. To get a clearer picture of general government external liabilities the non-governmental public sector debt of 11.5 billion USD must be also be included – a considerable part of this debt carried federal government guarantees. All the public debt has been medium or long-term.

#### 4.1.3. Monetary Policy and the Financial Sector

In the 1990s, the short-term operational target of the Bank Negara Malaysia (BNM), i.e. Malaysian central bank was the one-month interbank rate. At the same time, central bank was monitoring money and credit growth and the exchange rate of Malaysian currency, the ringgit (MYR). The main

instruments used were reserve requirements, direct lending and borrowing from the interbank market and sales of Bank Negara bills (introduced in 1993). Measures taken by the BNM were successful in containing inflation. In spite of rising aggregate demand, inflation stood below 4% in the years preceding the crisis. Interest rate policy was rather liberal and remained in line with the corporate sector needs for low-cost financing and authorities' objective of fast development and economic growth. In 1994, the nominal interest rate was around 4%, which means that the real interest rate was about 1%. From 1994 until 1997, the nominal interest rate was steadily rising up to around 7% – it was a response to a large credit expansion. Nevertheless, the liquidity of the banking system remained high. The BNM has also been responsible for exchange rate management. As the international trade constituted a very large portion of the Malaysian

Figure 4-6. Malaysia: Ringgit exchange rate (MYR/USD)



Source: Bloomberg

Table 4-2. Banking system indicators, third quarter 1997

	Share of loans to broad property sector	Risk weighted capital ratio	% of total banking system assets (1999)
Commercial banks	31.7	11	74 (dom:57, foreign:17)
Finance companies	22.8	10.6	20
Merchant banks	31.9	13.3	7

Source: IMF, Malaysian authorities

Table 4-4. Financial system indicator ("leverage" and short term debt), 1996

	debt/equity ratio	% of short term debt
Financial system	239	90.6
Commercial banks	154	98.8
Finance companies	202	94.6
Insurance	592	62.2
Stock brokerage	452	95.9

Source: IMF

economy, the primary objective was to maintain exchange rate stability in order to eliminate unexpected fluctuations and exchange rate risk. Although direct foreign exchange market interventions were not an instrument in the conduct of the monetary policy, this goal was achieved: in the 1990s (up to the financial crisis in 1997) the ringgit exchange rate stood always in the vicinity of 2.5 MYR/USD.

The financial sector in Malaysia consisted of three types of institutions authorized to take deposits: commercial banks, finance companies, and merchant banks. Commercial banks were engaged in retail and wholesale banking and were the only institutions that could accept demand deposits. Foreign banks had a long tradition in Malaysia. Despite regulation limiting foreign ownership in the banking system, in 1999 foreign banks controlled around 25% of assets of all the commercial banks. Finance companies offered lending and other types of credit to consumers and small business deriving funds mainly from time and saving deposits. Merchant banks were engaged in other, usually fee-based activities such as loan syndication, corporate advisory work, securities underwriting and portfolio management. In recent times, merchant banks turned as well to the provision of loans and deposit taking, but the BNM tried to discourage such activities.

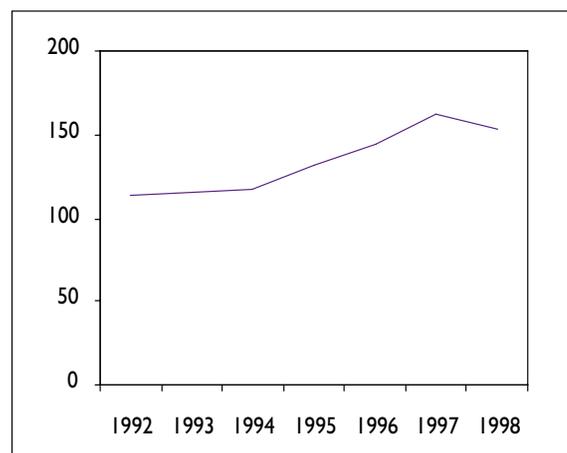
In addition to the above-mentioned institutions, there were other participants of the financial market, like pension and insurance funds and stock brokerages. The Malaysian financial system was characterized by the relative importance of non-bank financial intermediaries – the combined assets of the BNM and all commercial banks constituted, in 1996, only about 53% of total financial system asset. Another feature of the system was a high leverage of financial enterprises. Overall, the 1992–96 average debt-to-equity ratio amounted to 239%, and for insurance companies and stock brokerages 592% and 452% respectively.

Since the late 1980s, the Malaysian authorities pursued a policy of financial system liberalization. The measures included liberalization of interest rates, reduction of

credit controls, enhancement of competition and efficiency, and deregulation of a banking system. In 1989, the barriers between different types of financial institutions were removed, finance companies were allowed to participate in the interbank market. In 1991, lending rates were liberalized (being previously pegged to lending rates of two main banks). As the result of authorities' effort to deepen the financial market, the interbank money and foreign exchange market developed rapidly.

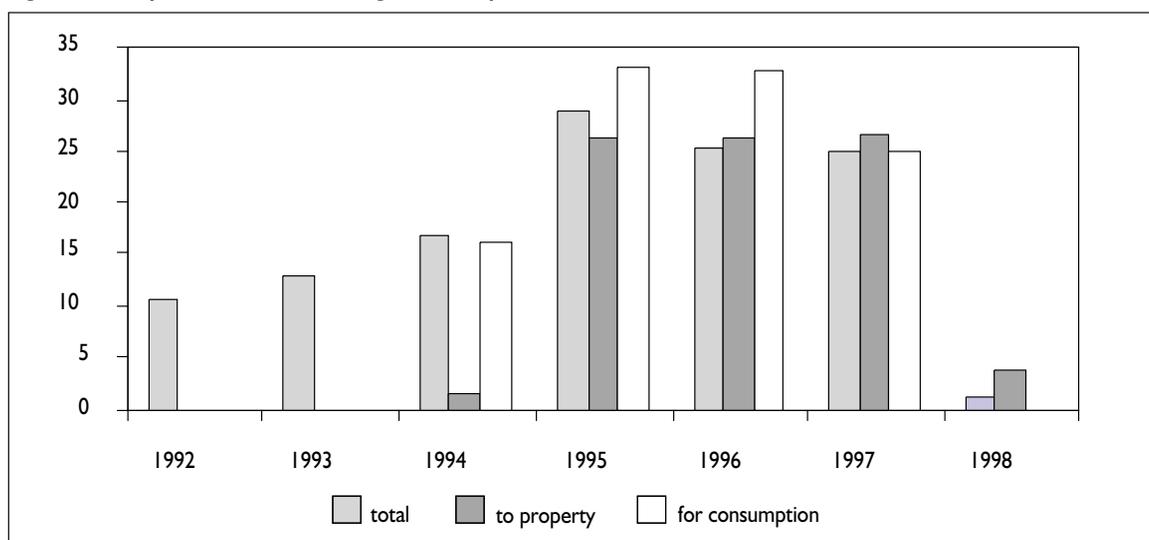
The 1989 Banking and Financial Institution Act placed all banking entities under the BNM supervision and obliged them to meet tight prudential regulation such as disclosure requirements, limits on large exposures, loan classifications, capital adequacy ratio, and other responsibilities based on the Basel capital framework. Indeed, Malaysia had a well-developed supervisory and regulatory framework – one of the best in the region. As a result, the quality of assets in the financial system, according to the BNM,

Figure 4-7. Malaysia: Credit to private sector/GDP



Source: IMF

Figure 4-8. Malaysia: Private sector credit growth in % p.a.



Source: IMF

was relatively good. The proportion of non-performing loans in total loans outstanding was 4.1% (end-1996). The risk weighted capital ratio of 10.6% was also reasonable comparing to 8% minimum requirement.

The side effect of liberalization was the emergence of a large number of small and undercapitalized banks. To remedy this problem, the BNM actively encouraged mergers in the banking system. The banking sector took advantage of the liberalization and engaged in rapid expansion of lending activity, which in years preceding the 1997 crisis took a form of a lending boom. The domestic credit growth averaged about 25% per annum. As a percentage of GDP, lending amounted to about 160% – one of the highest intermediation level in the world.

Lending to the broad property sector, against equity and other assets, thrived – the share of loans to this sector in total banking system portfolio (risk exposure) exceeded 30% and was the highest among merchant banks. The collateral valuation was also very high – ranging from 80 to 100% – which in the presence of real estate price inflation added much risk to this portfolio.

Together with financial sector deregulation, the authorities pursued a policy of capital account liberalization. For the highly open and emerging Malaysian market, this liberalization was an important way of facilitating international trade and providing investment capital. In the years before the crisis, the capital control regime could be described as liberal. The ringgit was externally convertible – was allowed as a currency of trade settlements, which relieved resident importers and

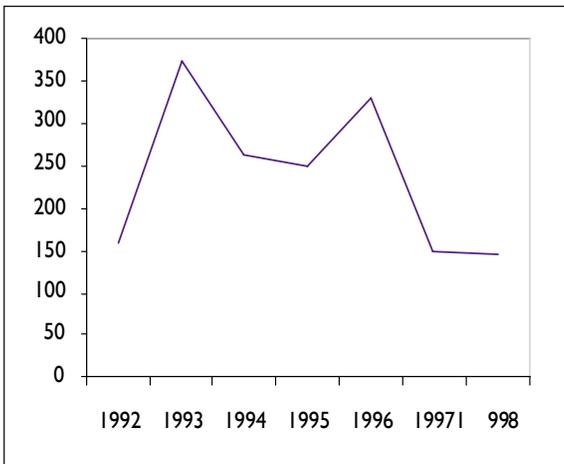
exporters from the need to hedge against exchange risk. There were relatively few restrictions on the ringgit transactions with nonresidents.

As a consequence, the system of external accounts [6] and offshore market for the ringgit developed, mainly in Singapore. There were no restrictions on the source of funds placed in the external account as well as on the transfer of funds into or out of the external account. Malaysian banks were allowed to provide forward cover against the ringgit to nonresidents. Over-the-counter trading of the Malaysian stocks and bonds took place in Singapore and Hong Kong. Borrowing abroad by authorized dealers as well as their foreign exchange lending activities were only subject to prudential regulations. Foreign currency borrowing by residents was allowed, provided the applicant could prove its earning in foreign exchange. Portfolio capital inflow was unrestricted into all Malaysian financial instruments. FDI inflows were actively encouraged (e.g., through tax exemptions); repatriation of nonresident investment and profit was completely free.

This policy, together with a stable, growth-oriented environment and wide investment opportunities effected in constant inflow of foreign direct investments, which in 1997 amounted to 6.7 billion of USD. On the other hand, a favorable MYR-USD interest rate differential and remarkable stability of exchange rate could not go unnoticed by the short-term investors. In response to a surge in capital inflow, that began to get out of hand in 1994, the authorities decided to introduce temporary inflow controls on portfolio transactions – these restrictions were indeed soon lifted. Short-term inflows quick-

[6] External account is defined as a ringgit account maintained with a financial institution in Malaysia, where the funds belong to a nonresident individual or corporation.

Figure 4-9. Malaysia: Market capitalization (% of GDP at year end)



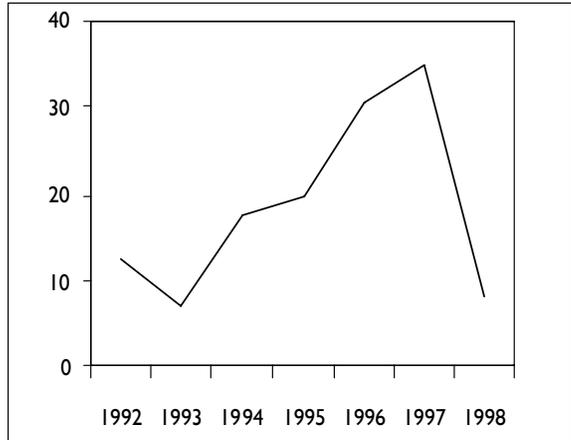
Source: IMF

ly rebounded and in 1996 totaled over 4 billion of USD. As a result of these inflows, foreign reserves of the BNM increased steadily.

#### 4.1.4. The Corporate Sector

During the 1990s, Malaysia witnessed a rapid development of the capital market. The stock market expanded significantly – fuelled by the privatization and listing of large state-owned companies, establishment of the Securities Commission (1993) and credit agencies, improvement in trading and settlement system as well as strict prudential supervision. The capital market became a major source of funds for the corporate sector – in 1997 the total net amount raised there by the private sector equaled to 30.4

Figure 4-10. Malaysia: Net funds raised by the private sector in the capital market (bln MYR)



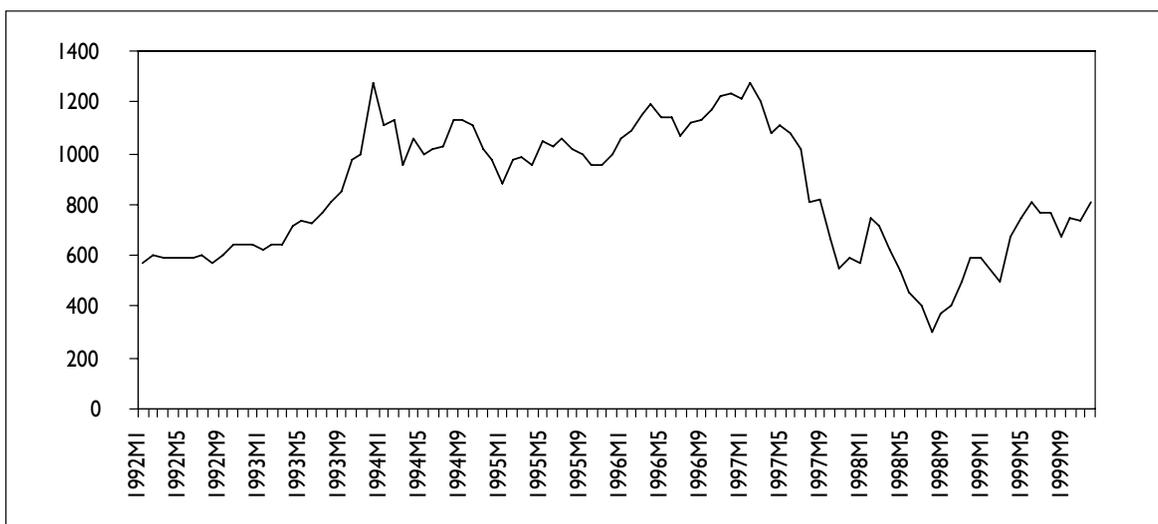
Source: IMF

billion MYR (around 10 billion USD): half in new shares, half in debt securities. In 1997 Malaysia had the biggest per capita market capitalization among ASEAN-4 countries (more than 3 times its GDP). Following the brief downturn in 1994, there was a strong upsurge in stock prices. At the end of 1996, annual increase of the Kuala Lumpur Stock Index (KLSI) exceeded 25%. However, in the first quarter of 1997 the trend was reversed and the KLSI started to decline.

Equity price increases were not the only stock exchange phenomenon, there was also general asset price inflation – most notably and importantly in the property and real estate sector. This happened primarily due to large capital inflow and domestic credit expansion.

The corporate sector in Malaysia was characterized by rapid growth. In the 1990s and before the crisis, a number

Figure 4-11. Kuala Lumpur Stock Index (KLSI)



Source: Bloomberg

of listed companies grew by average 14% per annum, and total market capitalization of companies from main and second board by 40%. Since the late 1980s, the evolution of corporate sector was boosted by the privatization of large state-owned companies and big investment projects. Another reason for private sector expansion was the stable macroeconomic situation and growth-oriented fiscal and monetary policies encouraging investment and capital inflows.

For financial enterprises, the average growth rate of assets amounted to 40% per annum between 1992 and 1996, for non-financial enterprises it averaged 31%. Growth was financed mainly through debt issues and borrowing, however, equity also became a significant source of fund rising. The important feature of private sector financing was a heavy dependence on short-term debt, which constituted 90% of the total debt of financial institutions and 60% in the case of non-financial enterprises. Fortunately for Malaysia, the corporate debt was primarily domestic. Resident companies were banned from taking foreign exchange denominated loans unless they could prove hard currency revenues. The corporate sector also became highly leveraged due to a long period of high growth and a policy aimed at rapid asset accumulation and sales expansion. Malaysian corporations had a rather complicated interdependence structure such as cross-holdings, "double leverages", pyramid structures, etc. 28% of market capitalization was in 1997 controlled by 15 families, which was a very high degree of ownership concentration. Many large companies, especially those created as a part of industrialization strategy or previously state-owned, had close links to the government.

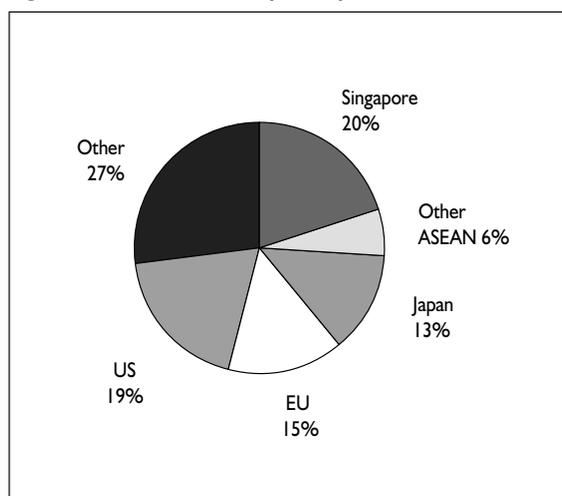
Total external debt of the broad private sector at the end of 1996 amounted to 23 billion USD, 60% of that medium and long term. Remaining 40%, i.e. about 10 billion, was short-term owed mainly (6.7 billion USD) by the banking sector. Non-bank financial institutions and corporate sector accounted for 1/3 (3.2 billion USD) of total short-term debt. There was a rather rapid build up in short-term private debt in 1996 – it rose more than 50% from 1995 level, compared to 15% increase between 1994 and 1995. Total external debt of an economy as a whole amounted to 38.6 billion USD, or about 40% of GDP. 74% of this debt was denominated in USD.

#### 4.1.5. The External Sector

The Malaysian economy is the most open in Southeast Asia. The measure of openness, i.e. average cross-border trade  $((\text{export} + \text{import})/2/\text{GDP})$  amounted 110% in 1997. The once popular import substitution was, since the 1970s, gradually abandoned and switched to export promotion. This process gained momentum in the mid-1980s when Malaysia embarked on the process of gradual liberalization of trade and exchange regime designed to boost the export-oriented manufacture sector. Measures were taken to promote export competitiveness (like the nominal ringgit devaluation) and facilitate the import of essential capital goods and intermediate inputs. Rapid economic development and industrialization sifted Malaysia's export from commodities to manufactured goods. The share of rubber in export fell from 55% in 1960 to 2% in 1997. The share of manufactured goods in export rose from 16% in 1960 to 80% in 1997.

Malaysia's outward orientation intensified during the 1990s. Non-tariff barriers were gradually eliminated in line with Malaysia's commitment under the WTO. The effective import-weighted tariff rate was lowered from 11.2% in 1992 to 9.4% in 1997.

Figure 4-12. Direction of Malaysian export



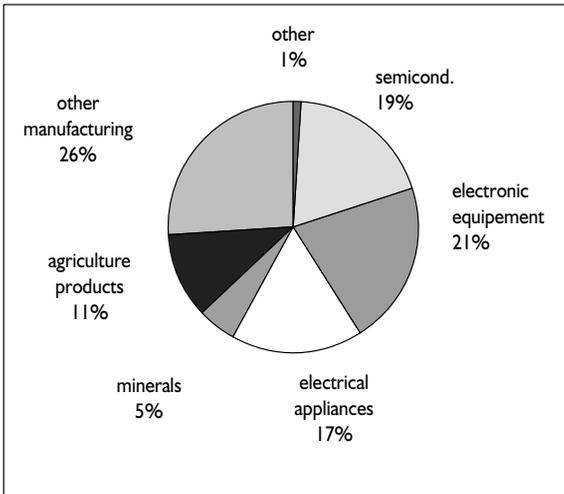
Source: BNM, IMF

Table 4-4. External debt at end-1996 in bln USD

		Total	38.7
Long-term	public		15.7
	private		13
Short-term	public		0
	private	banking	6.8
		non-banking	3.2

Source: BNM

Figure 4-13. Malaysia: Export of goods composition



Source: BNM, IMF

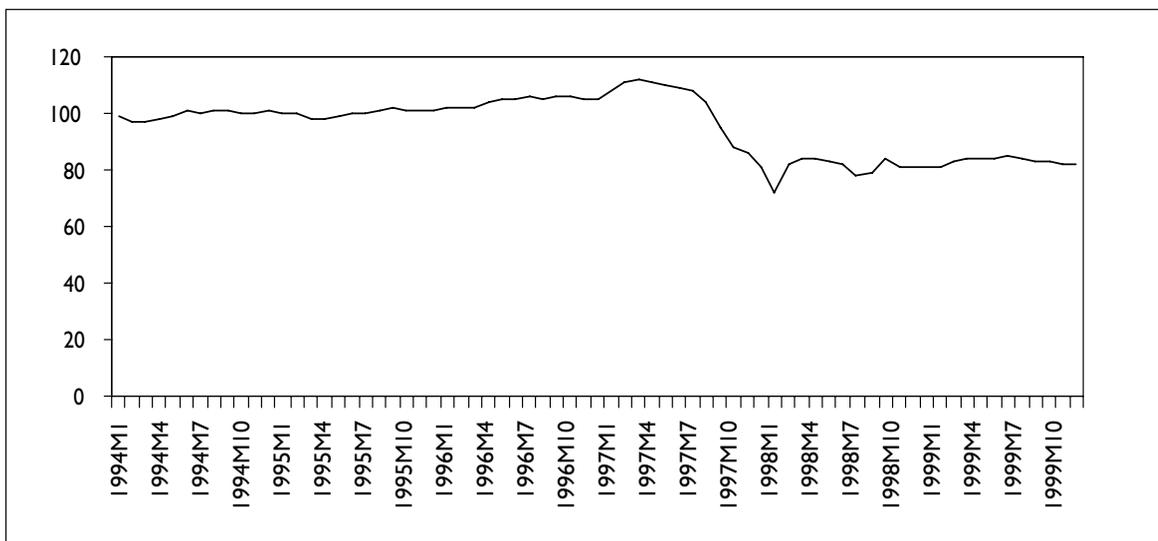
Singapore was the major Malaysian trade partner in 1997 (20% of total export), followed by the US (19%), European Union (15%) and Japan (13%). Trade links with other ASEAN countries were not as close as one would expect given their geographical proximity. The most important item in commodities' export in 1997 was palm oil (3.8 billion USD), crude petroleum (2.5 billion USD) and rubber (1 billion USD). Total major commodity export made up about 15% of the total export. The main components of manufactured export were semiconductors (14.5 billion USD), electronic equipment (14.2 billion USD), and electrical appliances (13.6 billion USD) amounting together to around 55% of total export. Intermediate

goods (51 billion USD) and capital goods (15 billion USD) dominated Malaysian import. Consumption goods (5 billion USD) constituted only 6% of total imports. The overall trade balance was usually positive through the 1990s. Service settlements – primarily freight, insurance and investment income payments – decided about negative current account balance.

In the analysis of external sector development in Malaysia before the 1997 Asian financial crisis, there are two important issues that have to be addressed: real exchange rate overvaluation and current account deficit. There are well known problems with measuring real exchange rate misalignment but there is a consensus that prior to the crisis the Malaysian ringgit was overvalued at least 5% (CPI-based). Other methods (PPI-based, export-unit-value-based) produce figures around 20–25%. Nominal exchange rate was kept in rather narrow range of 2.4–2.8 MYR/USD. This virtual peg to the USD was expected to facilitate external financing of domestic projects and promote international trade.

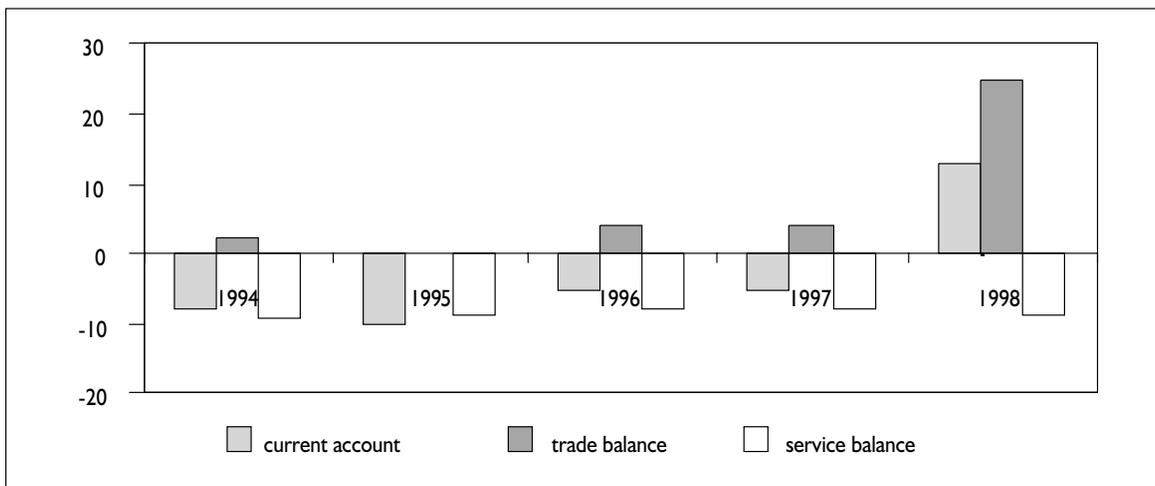
The real overvaluation of the ringgit emerged from two sources. First, the sharp appreciation of the US dollar relative to Japanese yen and to European currencies led to deterioration of cost-competitiveness in Malaysian trade with these countries. Second, the surge in private capital inflows – notably portfolio and foreign direct investment – that took place in the 1990s led to continuous upward pressure on the ringgit: from 2.73 MYR/USD in early 1994 it appreciated to 2.48 MYR/USD in 1997. Real appreciation led to a current account deficit – movements of the real exchange rate were, to high degree, correlated with a current account balance. The other factor worth mention-

Figure 4-14. Malaysia: CPI-based real effective exchange rate



Source: IFS

Figure 4-15. Malaysia: Current account balance and composition (% of GDP)



Source: BNM, IFS

ing was the fall in demand for semiconductors – the main Malaysian export product – in the years preceding the 1997 crisis. On the other hand, the above trade balance explanation might not be sufficient – most of the current account deficit originated in service account, notably in investment income payments.

The surge in foreign direct investment resulted in a rather inelastic demand for intermediate and capital goods import. This would point to large long-term capital inflows as a principal reason of current account imbalances, and suggests that these imbalances had a structural character. However, Malaysia had a good record of current account financing – it was in almost 100% covered by foreign direct investments. Nevertheless, Malaysian authorities took steps to contain this deficit – mainly through restrictive fiscal policy. To some extent, they proved to be effective: from a record 10% of GDP in 1995, the current account deficit decreased in 1997 to 5%.

## 4.2. The Crisis

### 4.2.1. Introduction

The direct cause of the Malaysian financial crisis was the contagion effect from Southeast Asian neighbors. The mechanism of crisis development has been similar to these countries. A gradual deterioration in the macroeconomic situation was making international capital market anxious about further profitability of investment in Malaysia. Some short-term capital was withdrawn, the downward pressure on currency confronted the authorities with the necessity to take one of the alternative decisions.

First, if the authorities have sufficient foreign reserves they can defend the currency through raising interest rates. Such a measure has a well-known shortcoming – it slows down the economy. This could be acceptable as a temporary response – longer debt maturities are usually not affected. It becomes more serious if a large portion of domestic debt represents short-term maturity. A prolonged period of high short-term interest rates can force some cash-short companies to postpone investments. This means a danger of recession. Some companies being very cash-short may default on their obligations. One default can cause another default – the economy will experience a credit crunch with serious contractionary consequences. Matters can become much more serious if companies are highly leveraged – they not only become insolvent but they can go bankrupt. That happens more often if they invest in assets such as stocks or real estate, as prices usually decrease substantially in the crisis.

The second option is letting the exchange rate depreciate. However, if the economy has a large stock of external debt, especially in the private sector or if firms borrow in foreign currency, getting their receipts in domestic ones (and remaining usually unhedged after a prolonged period of exchange rate stabilization) companies can default with all the above-described consequences. Additionally, defaults on external debt damage the country's international reputation. Moreover, after devaluation the increased price of import puts pressure on domestic price level, inflation accelerates which in turn fuel depreciation expectations and the vicious circle will close.

If there is a conjunction of negative factors such as a large stock of short-term debt, excessive leveraging of companies and large unhedged external debt (combined with other ingredients like shortage of foreign reserves or political instability), the authorities might have no degree

of freedom to maneuver. Such situation falls under the term "vulnerability". When this becomes common knowledge, speculators join capital outflow and sell the domestic currency short. At this point, it is virtually impossible to end the crisis without paying a high price.

Malaysia was not an exception to the mechanism described above. However, the extent of the crisis was moderate compared to Indonesia, Thailand or Korea. Malaysia managed to avoid the widespread bankruptcies, bank runs, social unrest, and downward spiral of inflation and recession. The key questions are: was Malaysia "vulnerable", if yes – why, and why matters did not go such a disastrous way as in other Southeast Asian countries?

#### 4.2.2. Malaysian Vulnerability Analysis

We start the analysis of Malaysian "vulnerability to currency/financial crises" in the end of 1996 with a review of the academic research findings related to currency crisis predictions. The most popular approach is called "early warning system" and is based on the fact that usually some macroeconomic indicators (called "leading indicators") endowed with above-average predictive power exceed their usual values and, therefore, issue a warning signal on the possible crisis. The main drawback of this system is that after each crisis researchers revise the set of leading indicators and come up with the new ones that seem to have a better predicting power. Afterwards, a new crisis unfolds and a new revision takes place. However, there is a consensus [see, for example, Edison, 2000] that the

most useful indicators are as follows: real exchange rate, level of foreign reserves, current account balance, the level of short term debt, domestic credit growth, fiscal and monetary expansion, short-term capital flows as well as other, hardly measurable features like the extent of moral hazard ("the incentive structure of financial system"), exposure to contagion, etc.

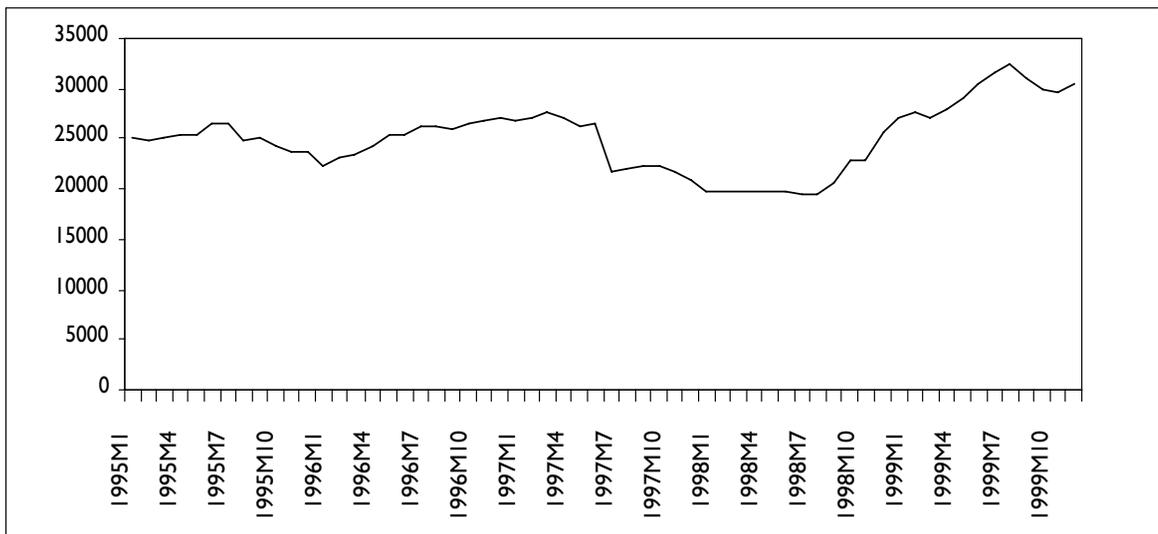
Essentially all the currency crises in the 1990s had a short-term capital outflow and currency speculation as their direct cause, and so were with Malaysia. From the point of view of short-term international investor holding ringgit assets, the most important parameters were the expected MYR/USD exchange rate and domestic interest rate.

In order to defend a currency against speculative pressures the central bank needs to have the sufficient international reserves. Malaysian foreign exchange reserves stood at 27.7 billion USD at mid-1997.

The first question is whether the debtor had enough foreign currency to pay the interest and amortization due. Total external debt service in 1996 amounted to 6.4 billion USD or 23% of the international reserves, so they were sufficient to service the debt. In fact, Malaysia had the best position in the region with respect to this issue. Sometimes the debt service is presented as a ratio of export – again the ratio of 8.2% was the best indicator in the region.

The second question is: once all short term creditors would like to withdraw their funds at one moment, would reserves be sufficient enough to meet their demand? Again, the ratio of the total external short-term debt plus external debt service to foreign reserves stayed at 70%, the best among ASEAN-4 [7] countries plus Korea.

Figure 4-16. Malaysia: Foreign reserves (mln USD)



Source: IFS

[7] Malaysia, Indonesia, Thailand, Philippines.

However, there was some confusion about the definition of short-term debt. The above used data, coming from the BNM, revealed (as mentioned above) that 27% (around 10 billion out of 38.6 billion USD) of the total external debt had a short-term character. When we take into account the data of The Bank of International Settlements whose members controlled 26 billion USD (2/3) of the total Malaysian debt the picture looks somehow different and less comfortable. In the BIS debt sub-sample the proportion of short-term debt to total debt amounted to about 50%. Hence, all the above indicators should be adjusted (almost twice) accordingly.

International investors can also be afraid that in the case of financial panic they will not get their hard currency back. From the theoretical point of view, they can feel secure when central bank liabilities (reserve money) are covered by international reserves. So the ability of the central bank to completely cover its liabilities with foreign exchange reserves is a good sign for the solvency of the system. The ratio of reserve money to official reserves at end-1996 equaled exactly 134% [8]. However, BNM acted as a lender of last resort to the banking system. So, in the event of financial panic all liquid money assets could potentially be converted into foreign currency. Hence, the ratio of M2 to foreign reserves was another leading indicator of possible distress. In Malaysia this ratio amounted to 480%, which could be regarded as potentially dangerous but still it was the best among ASEAN-4 [9]. On the other hand, the informative content of this indicator is not very clear, as M2/FX ratio is, to large extent, country specific and reflects rather the development of domestic banking system. Malaysian system in the 1990s was always characterized by a high degree of financial intermediation.

The importance of external short-term debt was already discussed above – Malaysia had actually a very decent record with respect to that. Almost equally important was the share of short time debt in private sector financing. The overdependence of the Malaysian corporate sector on the equity market and short-term debt securities pointed to the underdevelopment of long-term loan market. The high share of short-term liabilities meant that the authorities would restrain as much as possible from interest rate hikes in the event of capital outflow and increased pressure on the foreign exchange market. Instead, they would seek to sterilize these outflows by direct interventions on the interbank money market. The BNM policy of

stabilizing the interest rate meant that facing possible devaluation expectation the central bank would hesitate to compensate (with high interest rates) investors for the devaluation risk.

Devaluation expectations could possibly come from concern about overvaluation of the real exchange rate. The exchange rate was assessed to be overvalued about 5% based on CPI-measure [10]. Based on a real-export-unit-value, the real exchange rate was overvalued by about 20–25%. Still this could reflect a temporary decline in semiconductors and commodities prices. Although different sources proposed different estimates there was a consensus that the Malaysian currency was over its parity in 1996.

The prime source of concern in 1996 was a wide current account deficit (around 10% in 1995 and around 5% in 1996). All through the 1990s, the balance was permanently negative giving rise to anxiety about its sustainability [11]. The notion of "sustainability" is, however, hard to define – what is sustainable today can become unsustainable tomorrow. The principal issue is CA deficit financing.

In the case of Malaysia, it was covered through inflows of capital, notably FDI. The inflows of FDI in the 1990s was just sufficient to cover the current account deficit. But in the years preceding the crisis, FDI/CA deficit ratio was rather on the long-term decline, and there were expectations that this trend might continue.

One way to make "sustainability" operational is to introduce non-increasing foreign debt to GDP ratio. The current account is sustainable if it doesn't cause an excessive build-up of foreign debt. By taking an arbitrary 1% difference between long-run interest rates and long-run growth rate, Corsetti, et.al. (1998) show that a "sustainable" current account in case of Malaysia equals about 2.3% of GDP. In practice, the external debt/GDP ratio stood almost unchanged since 1993 till the crisis.

Generally, there is nothing wrong with a current account deficit as long as it reflects a consumption smoothing process. Milesi-Ferretti and Razin (1996), argue that Malaysian deficit development matched this pattern rather closely. But the consumption smoothing theory predicts that at some moment in future there will be a switch into trade surplus. From a political and economic point of view, the deficit will be "sustainable" if it can be reverted into surplus without a crisis or drastic policy change. However, in 1996–97 the current account imbalance seemed to have

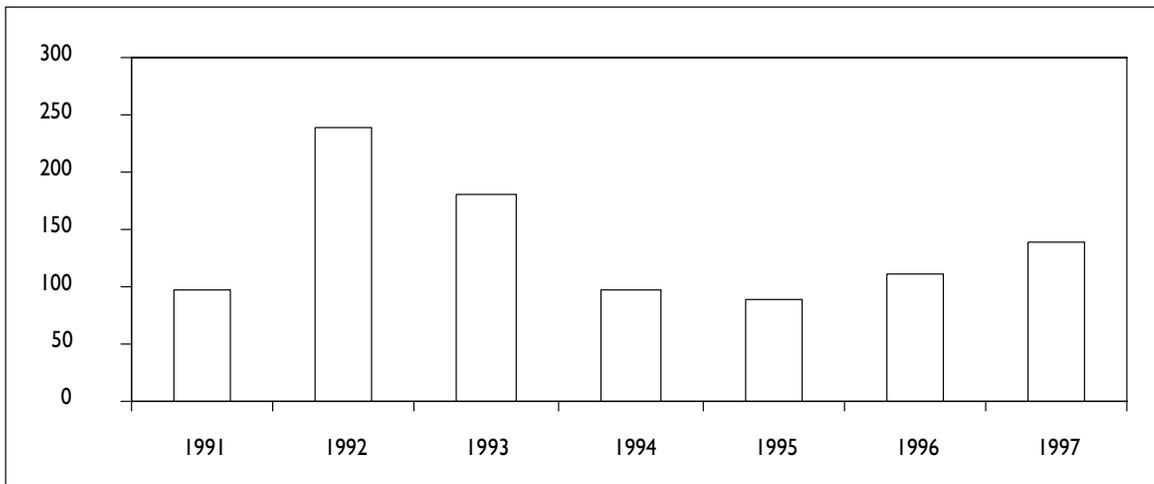
[8] The money(M1)/foreign reserves indicator was 145%.

[9] It is worth to notice, that in November 1994, just before Mexican crisis M2/foreign reserves has been 9.1 in Mexico, and 3.6 in Brazil and Argentina.

[10] This method has, however, many drawbacks. First, inflation is usually closely monitored by authorities and they attempt to contain the increase in the price of the most weighted components – so a change in inflation do not necessarily reflect the same change in competitiveness. Second, the so-called Balassa-Samuelson effect should be taken into account – due to faster productivity growth in the tradable goods sector the exchange rate seems overvalued (in CPI-terms) while it is actually not.

[11] The authorities were perfectly aware of the problem and tried to cool down the economy and reduce CA deficit in 1997 budget.

Figure 4-17. Malaysia: FDI/current account deficit (%)



Source: Corsetti et. al. (1998)

a structural character. The perspective of its financing was closely connected to a "sustainability" of capital inflows which, in turn, was connected to growth sustainability and investment opportunities.

Malaysia's economy grew at the average rate of 8% per annum in the 1990s. It was possible thanks to sizeable capital inflows, and vice versa the capital was attracted by the expected high rates of growth and investment opportunities. However, the abundance of capital, high investment rate and development promotion by the authorities worsened the quality of investment projects. The government engaged itself in "mega-projects" and massive infrastructure constructions [12], many of them reflecting political or propagandist considerations, rather than efficiency justification. Private sector, also facing increased supply of capital turned to more risky projects. Indeed, the incremental capital output ratio increased from 3.7 in 1987–92 to 4.8 in 1993–96, indicating a sharp decline in investment efficiency and profitability [13]. In such a situation it would be overoptimistic in early 1997 to hold expectations that in short future Malaysia would sustain 8–9% rates of growth without some adjustment or structural reforms.

The signs of overheating were evident in end-1996 and, eventually, optimistic growth expectations was revised in

early 1997 when the data revealed a sharp fall (60%) in investment from both foreign and domestic sources. The economic slowdown seemed inevitable, for what Malaysian growth-oriented companies with ambitious fund rising aspirations were not prepared. The authorities denied the overheating problem pointing to low inflation. However, rapidly expanding domestic credit fueled not only consumer prices [14] but the asset market too.

The asset market development seems to be the main factor of Malaysian vulnerability. Facing diminishing returns in corporate sector investment, the banking system switched from lending to manufacturing (growth in lending fell from 30% in 1995 to 14% in 1996) to lending for equity purchases (and growth in loans granted for share purchases rose to 20%, from 4% in 1995). Such loans were granted mainly by finance companies and merchant banks. As a result of such a policy and the wide availability of property loans, asset prices (shares, real estate) increased rapidly. A surge in the asset market was consistent with (speculative) overinvestment story described above. The KLSI gained about 25% in 1996 and a property and equity related sector index rose over 50% [15].

The BNM made an effort to slow down the domestic credit expansion by rising reserve requirements and intro-

[12] Some examples included: huge dam in remote Borneo, which rationale was questionable, new national airport, costing 9 billion US\$ (almost 10% of GDP), etc.

[13] The issue of capital productivity is closely linked to ongoing and yet unresolved debate about the causes of Asian miracle, namely whether the fast growth of Asian countries resulted just from abundance of capital and labor force or from productivity growth. The first view was advanced by Yong in the beginning of the 1990s and popularized by Krugman (1994, 1998). They argue that the total factor productivity in East Asia was significantly lower (sometimes even close to zero) than the rate of GDP growth. There were also studies that contradicted this view. Sarel (1997) found that TFP in Malaysia in 1978–1996 grew on impressive rate of 2% per year, while Claessens et al. (1998) remarked that the return-on-assets indicator increased in Malaysia from 5.5% between 1988–1994 to 6.3% in 1995–1996.

[14] It is worth mentioning that prices of some most weighted consumer goods in the CPI were effectively regulated and controlled in order to keep "inflation" down.

[15] Sarno and Taylor (1999) conduct a formal test and cannot reject the hypothesis that asset prices took divergent (bubble) path in Malaysia before 1997.

ducing controls over consumer lending for cars and houses in October 1995. It was also gradually raising interest rates. In March 1997 the BNM tried to halt the asset market bubble by placing restrictions and ceilings on property and equity lending [16]. But this intervention probably came too late.

Recognizing that these measures and BNM attitude would eventually put an end to the property and stock boom, investors started to withdraw their funds. This only reinforced the downward trend on KLSE and on the property market, which already started in the beginning of 1997. Few days after the restrictions were announced the index was 17% lower than its heights month before. In the first-half of 1997, the capital market witnessed some spectacular failures in fund raising and initial public offerings. Many companies were forced to suspend their investments.

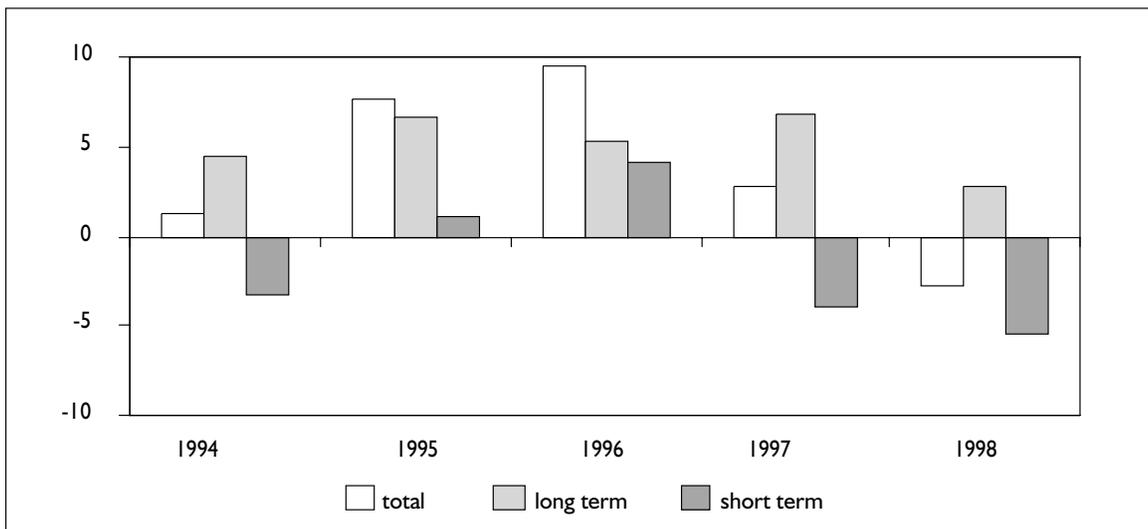
Still, there were no crisis expectations at the time. Economists and analysts were only talking about a "slow-down". The Malaysian economic fundamentals seemed strong, and the BNM had a good reputation. In mid-May the ringgit came under speculative pressure but a few days of high interest rates (overnight rose as high as 18%) was sufficient to counter this pressure and fend off the speculation with virtually no impact on the exchange rate. Malaysian securities had a high rating -rating agencies failed altogether to anticipate the crisis.

### 4.2.3. Crisis Development

Malaysia encountered serious problems on July 2, 1997 when the Thai baht peg to the USD collapsed. Immediately, market confidence to Southeast Asian economies was reassessed – unexpected devaluation of the baht meant that any country with similar economic structure, comparable state of fundamentals and export structure was likely to give up its exchange rate policy under similar circumstances. A prolonged period of fierce speculative pressure has started. The yield curve inverted dramatically. On July 8, 1997, the BNM was forced to heavily defend the ringgit. Short-term rates reached the level of 50%. On July 11, 1997, the Philippines gave up supporting its peso. The ringgit collapse was a matter of days. After the weekend, on July 14, the BNM abandoned its ringgit peg to the USD. Ten days after, Prime Minister Mahathir publicly blamed "rogue speculators" as responsible for the crisis. Later on, on several occasions, he suggested that currency speculation should be banned. Such statements further undermined investors' confidence in Malaysia. On September 4, the ringgit broke the psychological barrier of 3 MYR/USD and continued to depreciate. In January 1998 it hit his bottom ever of 4.5 MYR/USD.

The actual direct cause of the crisis was a rapid reversal of short-term capital flows that finally turned into financial panic. Malaysia, which in 1996 experienced inflows of over 4 billion USD and expected billions more in 1997, lost

Figure 4-18. Malaysia: Capital flows (bln USD)



Source: IMF

[16] The restrictions introduced limited further loans to 15% (30%) for commercial (merchant) banks and ceilings on existing outstanding stock of loans, which actually was lower than the proportion of property loans in banks portfolio. That implicitly meant that banks have to contract their lending, cease to roll-over pending credit, so new loans wouldn't actually be granted soon.

4 billion USD in 1997 and about 5 billion in 1998. The equity and property asset bubbles burst. KLSI in 1997 lost 50% of its value, while its property sector subindex lost almost 80%. Vacancy rate in central business district rose from 10% in June 1997 to 17% in June 1998. Prices and rents of office and residential property fell.

The crisis brought a 7% decline in Malaysian GDP in 1998 (instead of 8% growth as expected). It affected the Malaysian economy via the following transmission channels.

The stock exchange crash was a shock in a country with such a heavy reliance of the corporate sector on the capital market. Many projects had to be halted, companies had to postpone their investments. There was also a widespread uncertainty about the direction of the economy that contributed to the investment slowdown. This sharp decline in investment activity was the major source of a drastic fall in aggregate demand, which in turn became responsible for a recession. Private investment demand fell by 58% in 1998.

Rapid depreciation of asset prices brought massive negative wealth shock. Individuals and the economy as a whole

postponed their consumption. Private consumption, a second major factor in aggregate demand decline, contracted by 12%. As explained below, the overall contribution of public sector to aggregate demand change was also negative.

A sharp ringgit depreciation brought a rapid improvement in the current account balance. From a deficit of 5% of GDP in 1997, it turned to a 13% surplus in 1998. As export and service balances held steady, all the current account adjustment happened by a squeeze in imports which declined by 18%. The positive net external demand partially (in half) offset domestic demand contraction, so the overall aggregate demand fall by 25%.

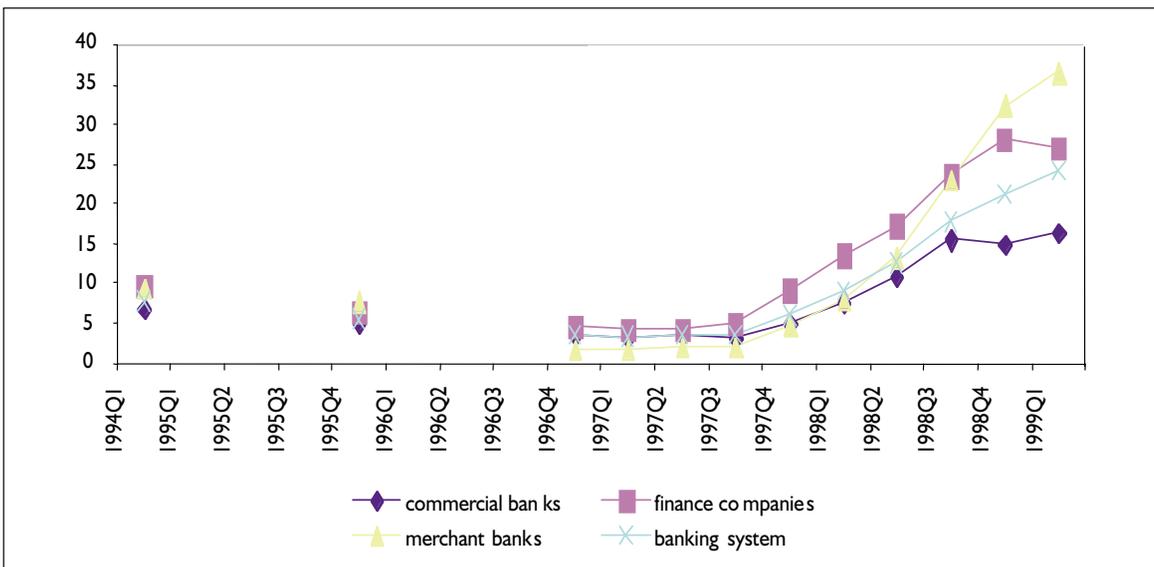
Exchange rate depreciation triggered inflationary pressures in the economy. From the end of 1997, inflation started to rise and at its peaks reached about 6% in mid of 1998. Afterwards, however, thanks to the stabilization of the exchange rate, inflation began to fall and reached pre-crisis level in the beginning of 1999. Inflation was substantially lower than expected [17]. The consumer price index revealed only a part of a price increase process – a large

Table 4-5. Domestic demand collapse components

		Change from 1997 to 1998 in %
private	consumption	-10.3
	investment	-57.8
public	consumption	-3.5
	investment	-10

Source: BNM

Figure 4-19. Malaysia: Percentage of nonperforming loans in portfolio



Source: IMF

[17] Malaysian authorities estimated that 1% of exchange rate depreciation would have the impact of 0.176% on inflation. Given around 40% depreciation of the ringgit, inflation should have risen at least the additional 6–7 percentage points.

part of the impact of ringgit depreciation was not passed on to consumers but instead absorbed by firms.

As opposed to other countries in Southeast Asia, Malaysia did not have a large burden of private sector external debt. Its vulnerability to exchange rate depreciation was therefore of less concern and did not pose a serious threat to the economy. Movement in exchange rate also had little impact on banks portfolio quality because of BNM strict prudential supervision over foreign currency borrowing.

The collapse of asset prices caused heavy losses of usually highly leveraged financial institutions engaged in stock market gambling, real estate lending, or other collateral-based credit activities. The banking system became insolvent, the ratio of non-performing loans soared, and the economy entered a credit crunch. The main source of concern became merchant banks and financial companies – exposed the most to asset market risk.

The banking system portfolio quality deteriorated slowly during 1997. After a crash of the stock and property markets this process accelerated rapidly. The proportion of non-performing loans in the total credit volume increased from 6% in December 1997 to 24% in March 1999. The worst was the situation of merchant banks, which had 37% of their total assets in non-performing status. In 1998, the banking system reported 2.2 billion MYR pre-tax losses, in sharp contrast with 7.6 billion MYR profit in 1997. Losses belonged only to financial companies and merchant banks, as commercial banks managed to maintain positive return on assets [18]. Despite losses the capital base of the banking system increased by 1.2 bln MYR in 1998 but only thanks to 4.6 bln MYR injection of fresh capital provided by the authorities. As a result of an asset meltdown through 1998, at the end of this year 9 out of total 78 financial institutions ceased to meet minimal capital criteria and other basic regulatory requirements. In addition to banking sector problems, there were also widespread problems in the shortly indebted corporate sector. Most of the companies' short-term debt was to domestic banks, establishing the link between financial sector problems and corporate sector distress. Some companies went insolvent or illiquid because their banks were unable to roll over their short-term debt. Similarly, the lack of capital and falling asset prices caused many corporate defaults, increasing the proportion of bad loans in the financial sector.

## 4.3. Response to the Crisis

### 4.3.1. Introduction

Hostile towards international institutions, as well as those who tolerated currency speculation which supposedly caused the financial crises in sound and solvent emerging markets, the Malaysian authorities rejected the help of the International Monetary Fund (together with its restructuring and reform directives), and decided to cope with the crisis themselves.

### 4.3.2. Fiscal Policy Response

The 1998 budget presented in October 1997 was designed to deal with large current account imbalance and overheating through further fiscal contraction. The fiscal surplus of 3% of GDP was planned, up from over 2% of GDP in 1997. In addition to these measures, the Prime Minister finally postponed several multibillion construction and infrastructure projects.

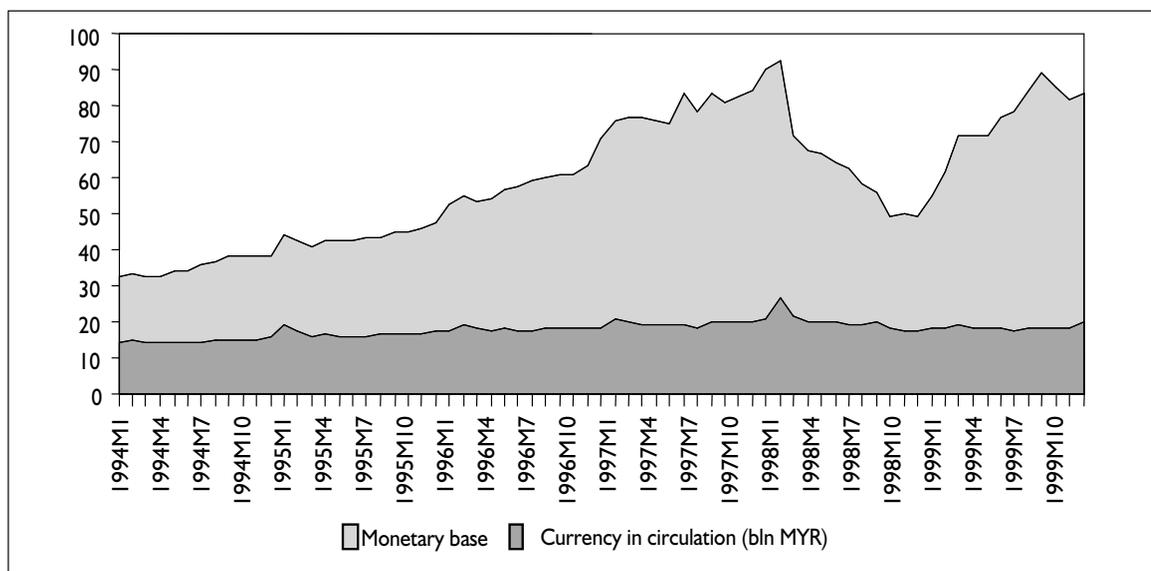
In November-December 1997, it became obvious that Malaysia was going to experience a significant slowdown and the authorities announced dramatic policy tightening (fiscal and monetary as well) to counteract the crisis. Budget spending were cut by 18% (partly to avoid a possible deficit), regulation of big import was introduced. Projection of budgetary surplus was revised down to 1.5% of GDP in anticipation of lower tax revenues. These steps came far too late as the crisis spread to other parts of the economy. The authorities realized this in the beginning of 1998 and decided to stimulate the economy. From March 1998, the policy stance was gradually changed to the expansionary one. In March 1998, the fiscal package of 3 billion MYR (1% of GDP) was announced. At the same time a drastic revision of federal budget projected the fiscal deficit of 2.6% of GDP. In July 1998, the additional fiscal package of 7 billion MYR (2.5% of GDP) was declared. New funds were to be spent on development projects. Some of previously suspended undertakings were resumed. The fiscal expansion continued in 1999 with an expected deficit of about 5% of GDP.

Despite this effort, and despite the fact that due to consecutive budget surpluses in the 1990s Malaysia was prepared for a period of fiscal expansion, the federal government response failed to provide the expected stimulus. Actually, the public sector contribution to domestic demand was negative – public consumption and investment

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[18] Although commercial banks didn't engage themselves excessively in equity and broad property credit they also incurred heavy losses because of their capital interdependence with finance companies and merchant banks.

Figure 4-20. Malaysia: monetary base and currency in circulation



Source: IFS

fell, compared to 1997, by about 3% and 10%, respectively. Actual deficit of the federal government of 1.5% of GDP occurred to be smaller than planned. Tax revenues were underestimated [19]. Also expenditures fell 0.5% GDP short of what was expected – a result of "institutional and operational obstacles". Because the authorities relied on inert infrastructure projects spending as an instrument for reviving the economy, the fiscal stimulus got delayed and spread to 1999–2000.

### 4.3.3. Monetary Policy Response and Capital Control

There were many phases and policy stance changes in the central bank's response to the crisis. In July 1997, BNM engaged in the heavy support of the ringgit. As a consequence of its interventions, short-term interest rates remained very high for some time and foreign exchange reserves were sharply falling. After realizing that continuous pressure on the ringgit and capital outflow was not going to ease soon and that high interest rate was likely to damage fragile financial system and after depleting 4.9 billion USD or 20% of its reserves in fruitless market intervention the BNM gave up its direct support to the currency.

It started to focus on domestic money aggregates and financial market stabilization, thus opting to sterilize the

capital outflow. As a result, domestic interest rates returned to their usual levels, the monetary base remained virtually unchanged (it actually rose slightly), as well as M1 aggregate – but a spread emerged between offshore and domestic interest rate encouraging further capital outflows [20]. In an attempt to interrupt this process, controls were imposed on banks to limit non-commercial-related offer-side swap transactions to 2 million MYR per foreign customer. Short selling of stocks on KLSE was also prohibited.

The BNM turned to the domestic market overlending problem. It established guidelines aimed at reducing annual credit growth to 25% by end-1997, to 20% by end-March 1998, and to 15% by end-1998, put restrictions on financial companies consumption lending and on all banking sector property projects.

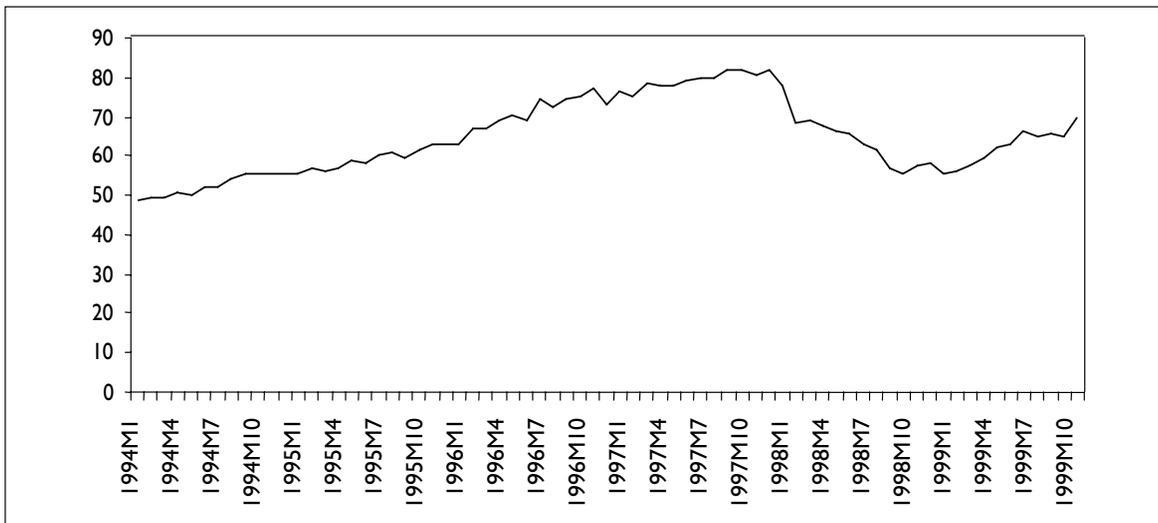
Relatively loose monetary policy continued for some time. The measures taken did not meet their aim – capital outflows were not stopped, reserves continued to fall, and the ringgit was permanently depreciating at a very stable pace. These developments increased the burden of public and private external debt, increased the price of essential import items, and most notably, set off inflationary pressures in the economy. The inflation-depreciation spiral became a real threat.

From November-December 1997 through February 1998, the BNM changed its policy stance to a contrac-

[19] Income tax is based on the income received during the preceding year. The direct tax revenues were 8% larger than planned.

[20] Spread emerged because the domestic interest rates were kept artificially low relative to market sentiments. At the same time, ringgit funds were needed for currency speculation, driving offshore interest rate high. The important source of speculative ringgit funds for nonresidents were offer side swaps.

Figure 4-21. Malaysia: money M1 (bln MYR)



Source: IFS

tionary one, increasing several times its intervention interest rate to as high as 11% but at the same time lifting some lending restriction as domestic banking sector condition deteriorated. The monetary policy remained tight until August 1998 leading to a sharp contraction in monetary base followed by decrease in M1 aggregate money. In the meantime, the current account sharply improved and inflation, which prospects were in the beginning overestimated, was successfully subdued [21]. But the tight monetary policy contributed to further weakening of the economy while, after a short break, the ringgit was again started its downward descent. BNM analysts could hardly see any stable correlation between interest rate and exchange rate [22]. The offshore-onshore interest rate spread reached 20%, constraining the effectiveness of domestic monetary policy and causing capital outflow to continue. In this environment, the Malaysian authorities decided to impose severe capital account controls on September 1, 1998.

The main objective of capital controls was to regain monetary independence [23] and to terminate capital outflows which was to be achieved by the effective elimination of offshore market and insulating domestic interest rates from external developments. Restrictions eliminated

practically all legal channels for the transfer of the ringgit assets abroad, required the repatriation of the ringgit held offshore to Malaysia within a month, prohibited the repatriation of portfolio capital held by nonresidents for 12 months, and imposed tight limits on the transfer of capital abroad by residents. Residents were prohibited to grant ringgit credit to nonresidents. However, payment and transfers for international trade and FDI was not subjected to restrictions. All import-export transactions had to be settled in foreign currency. All transactions with Malaysians assets (stock, securities, etc.) could only be concluded and registered through authorized institutions like KLSE. Securities had to be repatriated to Malaysia – some 170.000 investors had their portfolios totaling 10 billion MYR frozen.

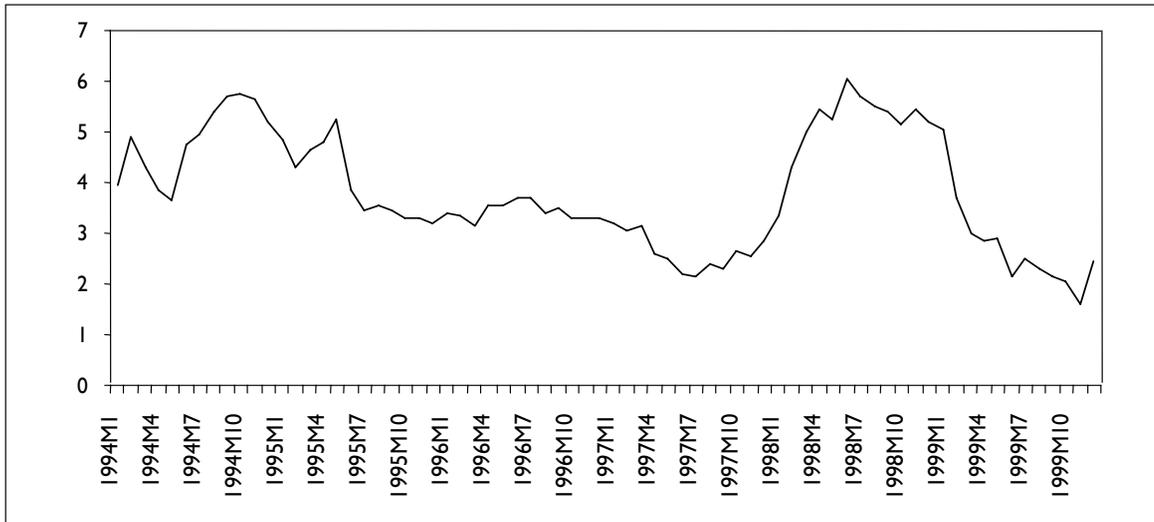
In such an environment the BNM could easily exercise monetary policy and regain control over foreign exchange market. The ringgit has been pegged to the dollar at 3.8 MYR/USD and remains stable at this level until now (November 2000). Monetary policy swung from contractionary to expansionary and central bank became engaged in providing liquidity for the domestic market. Rapid cuts of interest rates from 10 to 6% followed what was welcomed by the domestic corporate and financial sector.

[21] Not only was inflation smaller than expected, unemployment did not become a serious problem, increasing from 2.6% in 1997 to 3.9% in 1998. The main burden of labor market adjustment was absorbed by migrant workers. Right after the emergence of crisis the government canceled the law giving migrant workers an automatic prolongation of their working-contract after expiration.

[22] Gould and Kamin (2000) remark that monetary tightening may lead to counter-intuitive result of further currency depreciation, because it threatens to further weaken the banking system and the economy as a whole. The unstable relationship between interest rate and exchange rate can reflect market confusion about that issue.

[23] As it is well known, the authorities can maintain only two out of three following things: control over exchange rate, freedom of capital movement and monetary policy independence at the same time.

Figure 4-22. Malaysia: Yearly inflation (%)



Source: IFS

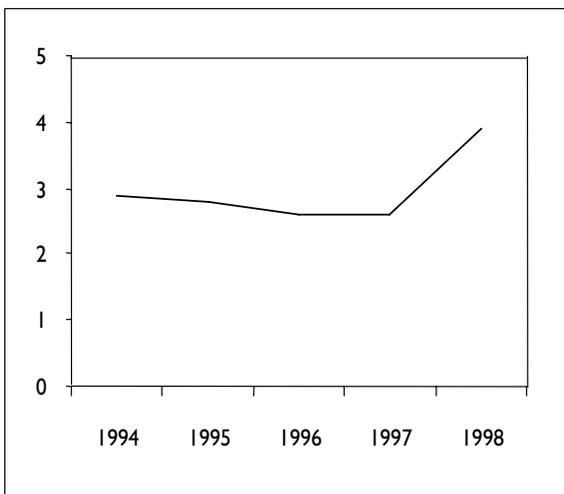
Malaysian authorities argued that the capital control was only a temporary measure in the crisis recovery plan but the international reaction was negative. Malaysian securities were downgraded by rating agencies and the country lost a lot confidence among investors.

Malaysia modified and eased capital account restrictions in February 1999 – partly because of the fear of massive capital outflow after the 12-month moratorium and because the domestic and external market situation stabilized, but also to prove that controls were indeed transitory. 12-

month moratorium period was lifted and replaced with a system of declining exit tax. The highest levy amounted to 30% and was to be gradually decreased. This step was considered as an improvement, so in April 1999 Malaysia was upgraded by rating agencies. Only a small proportion of invested funds were withdrawn in the period following the relaxation of capital controls [24]. Authorities continued to relax monetary policy – interest rate further decreased and fell below 3% in mid-1999.

There is no consensus whether Malaysian capital restrictions have been necessary, neither have they been effective. The main problem is the difficulty to separate the impact of these restrictions from the usual market developments. There are arguments that the vast majority of investors who wanted to withdraw from Malaysia had already withdrawn before September 1998, so the restrictions might not have actually been necessary. On the other hand, as Edison and Reinhart (2000) point out, the absence of speculative pressures on the ringgit, the exchange rate stability, sharp decrease in interest rates, reviving economy, steady inflow of new FDI's, and absence of any parallel or black exchange market provide the arguments that restrictions has been accepted and probably effective.

Figure 4-23. Malaysia: Unemployment rate (%)



Source: IMF

#### 4.3.4. Financial and Corporate Sector Restructuring

The consolidation of the financial system started in March 1998 and is continuing. The main components of

[24] In some countries, e.g. USA, large pension funds are prohibited by law to invest in securities below "investment standard" according to rating agencies.

this process are: setting up the institutions in charge of cleaning up bank's non-performing loans (Danaharta), injection of capital to undercapitalized banking institutions (Danamodal), corporate debt restructuring, company merger program, and tightening of prudential regulations.

Danaharta is a financial institution set up by the authorities with the mandate to deal with the problem of non-performing loans, and was expected to push borrowers and banks for fast restructuring. Its staff came mainly from the private sector. At the first stage, Danaharta acquired from banks at market value bad loans [25] that could not be restructured by banks themselves, with a price averaging about 40% of the book value [26]. The capital essential for the bailout operation was provided by the Ministry of Finance (1.5 billion MYR), and came from the issuance of zero-coupon bonds that had explicit government guarantee. Through March 1999 Danaharta purchased 23 billion MYR of non-performing loans, or a quarter of such loans outstanding.

In the second stage, Danaharta started to manage, restructure or/and execute the loans. In order to shorten maximally the period of financial clean-up and force banks to give up bad loans at prevailing low market value, the company built up a very strong system of incentives. Banks selling loans to Danaharta have a right to 80% of any profit that this company makes out of the loan, they can also amortize for five years the loss resulting from selling assets under its book value instead of recognizing it immediately. (In case of undercapitalization caused by such a transaction banks are eligible for recapitalization carried out by the Danamodal). Non-interest earning bad loans are exchanged with government guarantees, zero risk interest paying bonds. Danaharta has also special and unusual powers over the borrowers, whose debt has been acquired. Another body set up especially for restructuring large corporate loans is called the Corporate Debt Restructuring Agency. Through May 1999, the CDRA was reviewing 57 applications encompassing 31 billion MYR, out of which 2.5 billion was restructured.

Danamodal is an institution set up by BNM in order to provide the additional equity to undercapitalized financial companies. Its capital is funded by BNM (3 billion MYR) and by the government zero coupon bonds (8 million MYR). It intervenes to restore adequate capital ratio, however, the effectiveness of each investment has to be assessed by the independent international specialists. After intervention, Danamodal takes a stake in the institution proportional to its involvement, and engages in the

management of the company (it appoints at least two, high rank board members). By mid-1999, Danamodal injected 6.2 billion MYR to 11 banking institutions.

Another way of restoring adequate capital ratio in the system is provided by a merger program, which is conducted under the BNM encouragement and supervision. There is some concern, however, that the activities of Danamodal mean a hidden form of banking system nationalization. On the other hand, the authorities take into consideration (re-)selling distressed financial institutions to private sector, mainly to foreign banks.

What concerns prudential regulations, from 1998 the BNM requires from individual institutions to conduct monthly tests based on parameters given by the BNM. It has also issued "Minimal Standards on Risk Management Practices of Derivatives", "Minimum Audit Standards for Internal Auditors", and other guidelines for bank managers. In addition, it requires incorporating off-balance sheet items into loan classifications, and market risks into the capital adequacy norms. The BNM increased the frequency of on-site inspections, etc. The regulatory frameworks of capital market have been strengthened as well as disclosure and transparency rules.

#### 4.4. Conclusions

Generally speaking, Malaysia has avoided all the economic and social havoc characteristic of the crises in neighboring Indonesia, Thailand, and Korea. GDP fell temporarily (-7.5% in 1998) and then rebounded. The exchange rate depreciated around 50% and remained stable at the level of 3.8 MYR/USD. There was no social unrest or widespread poverty problem. Malaysian economic fundamentals occurred to be much sounder than those of its neighbors [27]. The external debt remained manageable, exposure to exchange rate risk limited, domestic debt low enough to absorb the costs of economy restructuring, and level of moral hazard in financial institutions not so high. Financial institutions had a lower ratio of non-performing loans and higher capital, and there was a stronger banking culture, with better supervision and prudential regulation than in other Asian economies.

In 1999, the Malaysian economy grew by 5.8%, while in the first quarter of 2000 real GDP increased by 11.9%,

[25] Minimal eligible loan amounted to 5 million of USD.

[26] But excluding one large and extremely faulty loan, the average price jumps to 63% of the face value.

[27] There are some opinions that Malaysia has been hit by the crisis unjustified, or by accident or by contagion only. Other opinions suggest that even without Asian crisis in 1997 Malaysia would have its own financial crisis in 1998–1999 due to overheating and speculative overinvestment in equity and asset markets and excessive domestic credit expansion.

and in the second quarter by 8.8%. FDI continued to flow in, inflation moderated to 1.5%, trade surplus remained on the high level of 7.7 billion USD, and BNM's international reserves – at the level of 30 billion USD. The overall risk-weighted capital ratio of the banking system amounted to 12.6% with non-performing loan proportion equal to 6.4%. The cost of fiscal stimulus amounted to 5% of GDP, also less than projected. The exchange rate remains stable, but on somehow undervalued level [28], which gives good prospects for current account but might put some inflationary pressure on the economy. Asset prices stand at around 60% of their pre-crisis level. The cost of restructuring of the banking sector totaled to about 10% of GDP, which was less than expected

Contrary to the macroeconomic "soundness", micro-economic reforms have been very slow. The consolidation of the financial system has not been completed. Until August 2000, Danaharta acquired, restructured and disposed a total 31.5 billion MYR of non-performing assets and CDRA completed 27 restructuring cases, involving 23.6 billion MYR. However, there are allegations, that some of the "restructuring" that take place is just a reshuffling of debt among subsidiaries in order to avoid insolvency. In other cases a debt solution is obstructed by the political connections of debtors. Although Malaysia is a leader in restructuring among post-crisis Asian countries, the failure to clean up the debt overhang can have serious negative consequences for the country.

The stock market has not yet resumed the role of a fund-rising institution.

Malaysia is still maintaining a rather restrictive capital account regime and because of that is probably not going to fully regain investors' confidence any time soon.

## Appendix: Chronology of the Malaysian 1997–1998 Crisis

1997

March 28, Malaysia central bank restricts loans to property and stocks to head off a crisis.

early-May, Japanese officials, concerned about the decline of the yen, hinted that they might raise interest rate. Investors start gradual withdrawal from South East Asian markets.

mid-May, The BNM defends ringgit with few days of very high interest rates.

July 2, Thai baht collapses and turmoil begins.

July 8, Malaysian central bank, Bank Negara, has to intervene aggressively to defend the ringgit. The inter-

vention works for a while (the currency slightly appreciates).

July 14, Malaysia central bank abandons the defense of the ringgit and engages in stabilizing domestic money market with relatively loose monetary policy.

July 24, Ringgit hits 38-month low of 2.65 MYR/USD.

July 26, Prime Minister Mahathir blames George Soros and other "rogue speculators" for the attack on the ringgit.

September 4, Ringgit breaks through 3 MYR/USD.

September 20, Mahathir tells the public, that speculation is immoral and should be stopped.

October 1, Mahathir repeats his call for tighter regulation, or a total ban on forex trading. The ringgit falls 4% in less than 2 hours to a low of 3.4MYR/USD.

October 17, Malaysia tightens budget in effort to stop the economy from sliding into recession.

December 5, Malaysia finally and radically changes its policy and imposes tough reforms in order to deal with a crisis. These include an 18% cut in government spending, restriction on large-volume import, on bank credit and in stock market regulations. There were to be "no question of bailout" for financially ailing companies.

1998

January-February, Several increases in BNM's intervention interest rate were planned to stop the currency from depreciating and restrict inflationary pressures

March, The severity of the crisis is gradually recognized and the fiscal policy changes to more expansionary. The fiscal package of 3 billion MYR (1% of GDP) is announced and a drastic revision of federal budget aims the deficit of 2.6% of GDP.

July, Another additional fiscal package (7 billion MYR (2.5% of GDP)) announced in order to stimulate the economy.

January-August, Despite the austerity fiscal measures and firm monetary policy the crisis and the capital outflow continue.

September 1, Malaysia introduces capital controls; financial investment can be repatriated only after a 1-year period. Rental and profits from sales can be repatriated.

1999

February 5, Malaysia replaces one year holding period with exit tax. Repatriation of principal and profits will be subjected to a maximum levy of 30%.

[28] The estimates of current undervaluation (exchange rate of 3.8 MYR/USD) reach even 19%.

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## Part V.

# The Indonesian Currency Crisis, 1997–1998

## by Marcin Sasin

### 5.1. Overview

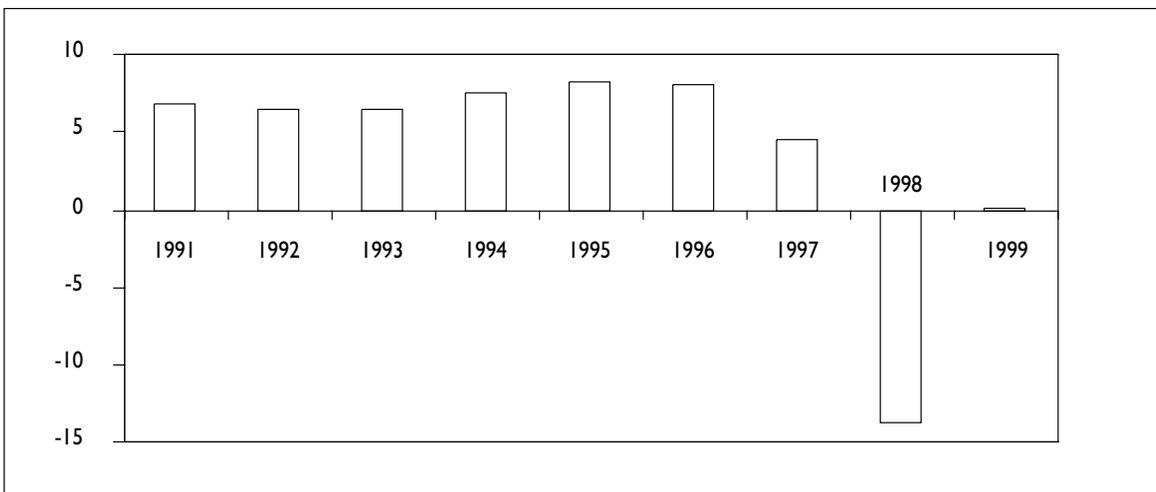
#### 5.1.1. Introduction

Indonesia, the biggest archipelago in the world, located in Southeast Asia, declared its independence from the Dutch and Japanese in 1945 and has been a republic since then. The President, as the head of the state and chief of the cabinet, is elected every five years. Since 1967 (till 1998) this post was occupied by Soeharto, who ruled in an authoritarian manner. The electoral system has been constructed to always secure the victory of the (then) ruling party, "Golkar". The power of President Soeharto and the Golkar has been derived from its close relationship with the military and administration – the military officers, under the doctrine of "dual function", have always served in civilian positions, such as cabinet ministers, local governors, heads of state corporations, supreme court judges, etc. In the last elections before the crisis, in May 1997, Golkar increased its share in the Parliament from 68% to 74%. The activities of the Parliament were merely to ratify the government's (President's) directives.

The 200-mln population is a complex ethnic and religious mixture (Muslim, Christian, and Buddhists). The Indonesian-Chinese, although constituting only 3–4% of the population and having little political resources in their disposal, are disproportionately important in trade and commerce – they control about 80% of total private capital, ranging from the biggest corporations to small provincial shops and stores. In the Muslim majority, notably among the poor, there is a feeling of exploitation by the Chinese minority. Social and ethnic tensions have been hidden under the authoritarian grip of the system. In addition, some provinces of Indonesia, namely Aceh, Papua and, till recently, East Timor – possess strong independence movements and often take active armed resistance, which is quickly suppressed by the authorities.

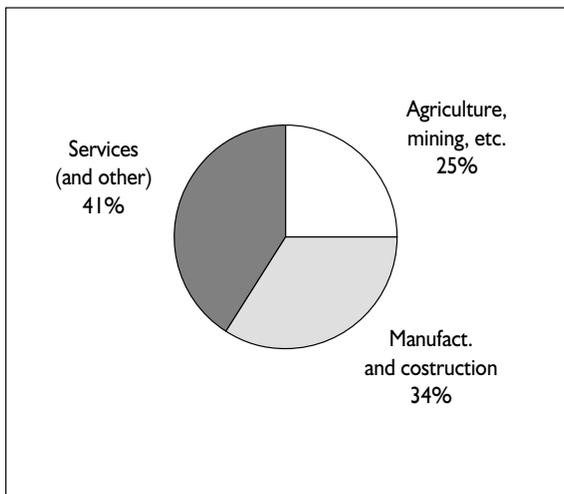
80% of the Indonesian economy is private, but there are still large state-owned companies – notably in the oil and mineral extraction sectors. The dominance of politics over the economy is the key issue when analyzing the Indonesian economic system. Under Soeharto regime, this system relied on the partnership between Chinese business and the military, as well as politically connected civilians (often the

Figure 5-1. Indonesia: GDP growth (% p.a.)



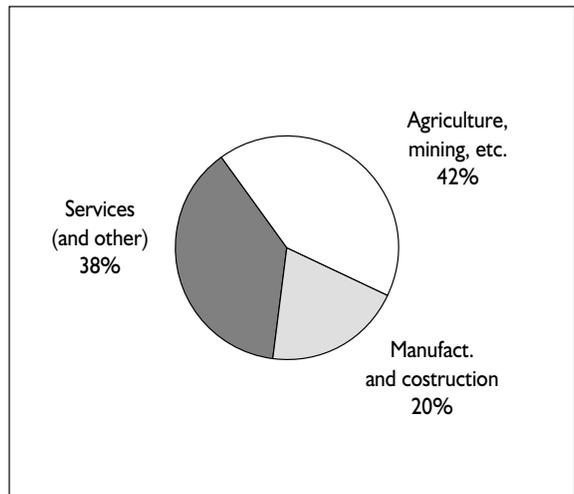
Source: IMF

Figure 5-2. Indonesia: GDP by sector



Source: IMF

Figure 5-3. Indonesia: Employment by sector



Source: IMF

relatives of senior government officials) in which the latter took a share in profits in exchange for providing protection and preferential access to contracts, concessions, licenses, tax exemptions etc. The same system of concessions and restrictions prevented others from participating in the most profitable economic activities. The children of the President were owners and chiefs of banks, oil firms and other strategic companies – corruption and nepotism were widespread. Indonesia was notoriously ranked in the last position in the Transparency International rankings [1]. The economy has been, to large extent, monopolized – from oil extraction to clove cigarettes – there was no Western standard competition law. Imports and distribution of essential food items were monopolized by state agency Bulog; food, electricity and other everyday products were subsidized.

Nevertheless this system, which derived its legitimacy from sustained improvement in the standard of living of the mass Indonesians, has been so far successful in achieving its goal of fast development. As a result of political stability and the impressive mobilization of country resources (saving rates around 30%, investment rates around 30–35% of GDP- in the 1990s), Indonesia experienced three decades of permanent growth and transformed itself from an underdeveloped, impoverished, agricultural and mineral-exporting country to a rapidly urbanizing industrial economy. In the years preceding the crisis, growth averaged around 7% per year. Recent reforms reoriented the economy so as to reduce its dependence on the oil sector, encourage the creation of competitive non-oil export-oriented industrial infrastructure and expand the role of the private sector. In early 1997, GDP per capita stood at

around 1140 USD, while total GDP was about 225 bln USD. The primary sector (agriculture, mining, etc.) had 25% share in total GDP and about 40% of total employment. Manufacturing and construction constituted 35% and employed about 20% of the labor force. Tertiary sector (services etc.) had around a 40% share in both GDP and employment.

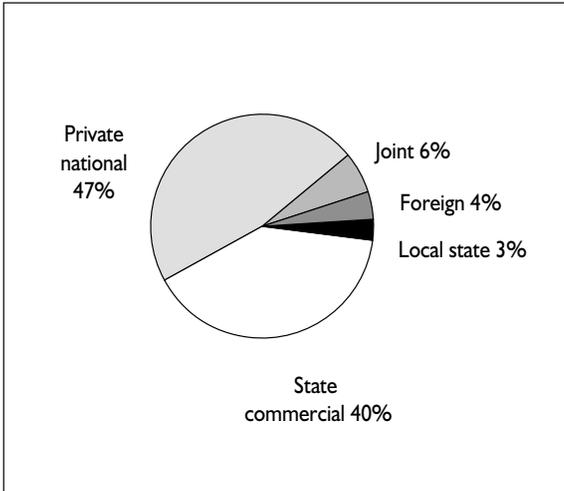
### 5.1.2. Monetary Policy and the Financial Sector

The central bank of Indonesia is Bank Indonesia (BI). Its task is to conduct monetary policy to stabilize macroeconomic environment, issue the national currency, the rupiah (IDR), handle foreign exchange assets and debt servicing, as well as exercise control over national banking and financial system. To this end, BI monitors broad money, credit aggregates and reserve money. In addition, the authorities monitor the real value of the rupiah against an undisclosed basket of currencies. The main instrument in BI actions are open market operations involving Bank Indonesia papers (introduced in 1984) and commercial bank papers (from 1985), as well as reserve requirements and foreign exchange interventions. In the 1990s, BI has succeeded in limiting inflation only to rather moderate level of 7–11%, however, in a period leading to the crisis inflation was steadily falling and reached about 5% in mid-1997.

Foreign reserves, together with reserve money, have been rising largely due to capital inflows, while domestic credit accelerated, triggered by financial liberalization. In the 1990s, BI had permanent problems with rapidly growing

[1] In 1995: 41/41 (41 place out of 41 reviewed countries), 1996: 47/54, 1997: 46/51, 1998 80/95.

Figure 5-4. Indonesia: Size of Indonesian banking system, assets of banks in 1996



Source: IMF

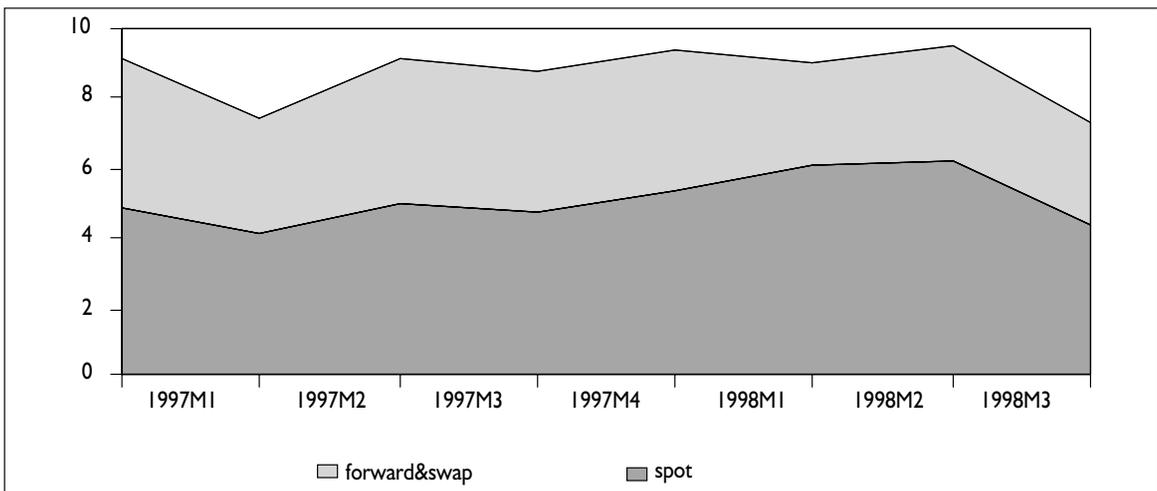
credit (over 20% a year in the period preceding crisis). Because of that, BI has conducted a relatively restrictive policy of high interest rates. Reserve requirements have been raised in accordance with BI plan to reduce credit growth to 17% in 1997 [2]. Bank lending rates in the 1990s have been usually 10% or more above inflation. The exchange rate policy can be described as real exchange rate targeting – with the rupiah gradually and predictably depreciating with respect to the USD about 4% year, i.e. from around 1900

IDR/USD in 1990 to around 2400 IDR/USD in mid-1997. Such a policy combined with capital account liberalization created incentives to borrow abroad to take advantage of interest rate differentials and prepare the ground for large capital inflows. BI tried to counteract excessive inflows by widening the rupiah's trading bands from 2% to 3% around daily mid-rate in 1995, and further to 5% in June 1996, and to 8% in September 1996, adding therefore some risk to foreign exchange market.

Before the crisis, the size of the Indonesian financial sector amounted to some 60% of GDP [3]. The leading financial institutions in Indonesia were commercial banks, accounting for 87% of total assets, out of which the biggest seven state-owned banks accounted for around half of that figure, the other half being distributed among around 170 private banks (1995). Other financial institutions like insurance companies, pension funds, stock brokerages or other financial intermediaries played only a minor part in the system and had no impact on the overall picture.

The process of liberalization of the banking system began in 1983 with interest rates liberalization and the elimination of credit ceilings. But ever since the government opened up the system to new entrants in 1988–89, the sector started to thrive. In 1988, reserve requirements were reduced from 15% to 2%, licenses for new private and joint-venture banks issued, and state-owned firms were allowed to put 50% of their funds with private banks. The following year, the requirement of BI license in long-term loans granting and offshore loans ceiling was removed. The number of banks soared from 112 to around 240 as anyone

Figure 5-5. Indonesia: Trading volume on forex market (bln USD/day)

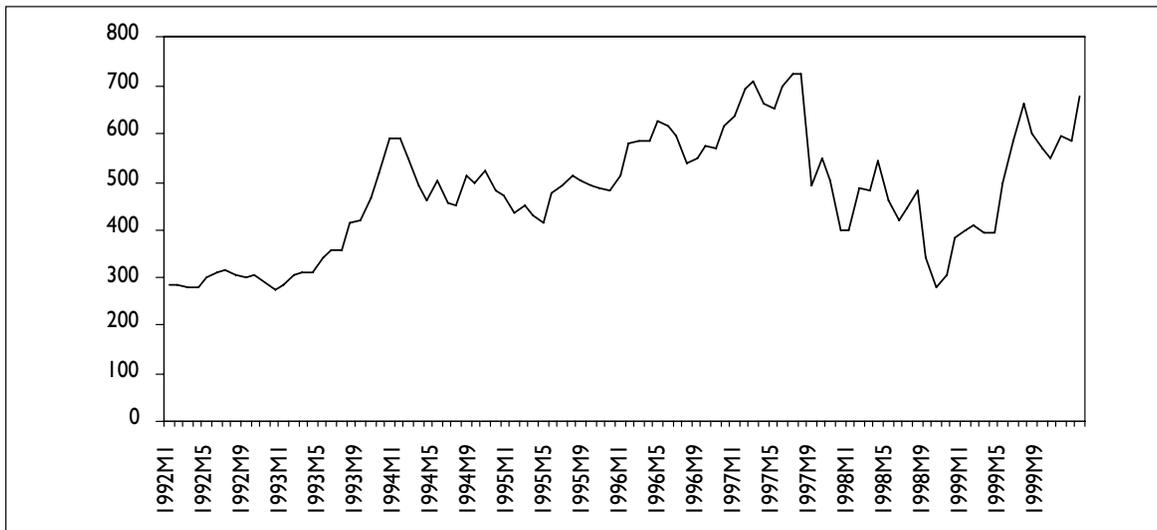


Source: IMF

[2] The plan failed to large extent and eventually credit growth reached 23%.

[3] Data for 1994. Compare Malaysia 100% of GDP and Thailand 110% of GDP.

Figure 5-6. Jakarta Composite Index



Source: Bloomberg

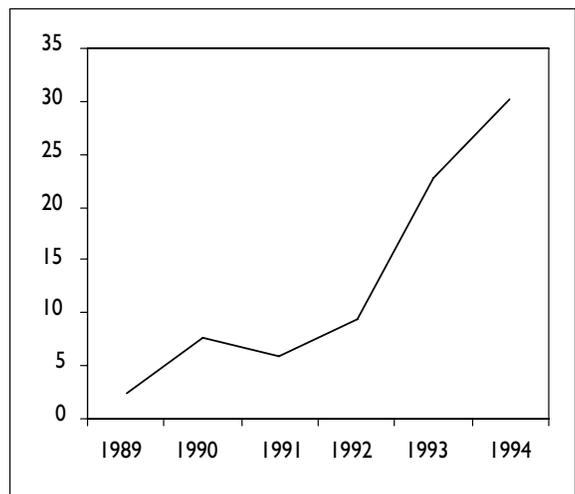
with access to around 3 mln USD minimum capital could set up shop. So did bank credit that rose by 350% from 1988 till 1995. In 1994, new private banks overtook state banks with lending activity. Without a proper supervision framework, and in combination with a severe shortage of trained and experienced bankers, this quickly led to a problem with prudent asset management and bad debts. To counteract this problem, BI introduced a minimum capital adequacy ratio of 8% and gradually increased minimum capital needed to open a bank to around 30 mln USD. In 1992, state owned banks were converted into limited liabilities companies. However, the Ministry of Finance announced in 1994 that it would not permit a state bank to default on its obligations.

This was not the end of banking fragility and problems. Financial scandals and bank failures were quite frequent, with government intervening to bail out bankrupt banks and cover deposits [4]. Noncompliance in lending limits and off-balance sheet operations were widespread. Strong political dependence of state banks, which were used as a source of cheap capital for government affiliates' enterprises, explains their permanent inferior performance, in terms of both return on assets and bad loans.

After liberalization, the 1990s witnessed a rapid development of the securities market. In 1988, the market was opened to foreign investors, in 1994 Bapepam (the state supervisory agency) implemented new accounting standards, and in 1995 a new computerized automatic trading

system was introduced allowing for much higher trading volume. Despite these changes, the securities market never became a major source of commercial finance. In 1994, equity market capitalization was only of 30% of GDP [5]. Moreover, its importance is still overestimated because capitalization includes shares that have never been sold – 70% of the shares are held by companies' founders [6], while the

Figure 5-7. Indonesia: Equity market size in % of GDP



Source: IMF

[4] Examples include looting of Bank Bapindo, or Bank Lippo scandal.

[5] Compared to 280% in Malaysia and 95% in Thailand.

[6] Indonesia has the highest ownership concentration in corporate sector among Southeast Asian countries. As it has been stated above, main Indonesian companies are characterized by the close connections with the authorities, strong family ties, and are monopolized by the small elite of Chinese businessmen, and senior government officials.

government holds large stakes in privatized and listed former-state-owned companies. When adjusted for that the stock market has provided about 15% of total business finance. The small size of the market and open access to it are the reasons why the Indonesian stock exchange was 70% dependent on foreign investors and relatively volatile. International investors complained about small liquidity, poor audit standards, doubtful fairness and quality of companies' disclosures as well as notorious insider trading.

Capital account liberalization started with a gradual promotion of foreign direct investment in designated sectors and with efforts to restructure and modernize the economy from oil-export dependence [7]. Investment procedures were simplified, certain restricted fields gradually opened, equal treatment with domestic investment sequentially granted, etc. In 1989 so called priority list ("in what fields to invest") was exchanged by so called negative list consisting of domains in which foreign investment was restricted. The number of items on the negative list was decreasing. As a result, foreign direct investment has been steadily pouring into Indonesia, especially from 1995 (in 1996/97 accounting year [8] FDI inflow amounted to 6.5 bln USD). In 1988, Indonesia accepted the obligation of Article VIII [9] – the foreign exchange market was developed and the swap transactions liberalized. The forex market remained relatively shallow with a 10 bln daily turnover in mid-1997. In 1989 and 1996 the authorities liberalized portfolio capital inflows by eliminating quantitative limits on banks' borrow-

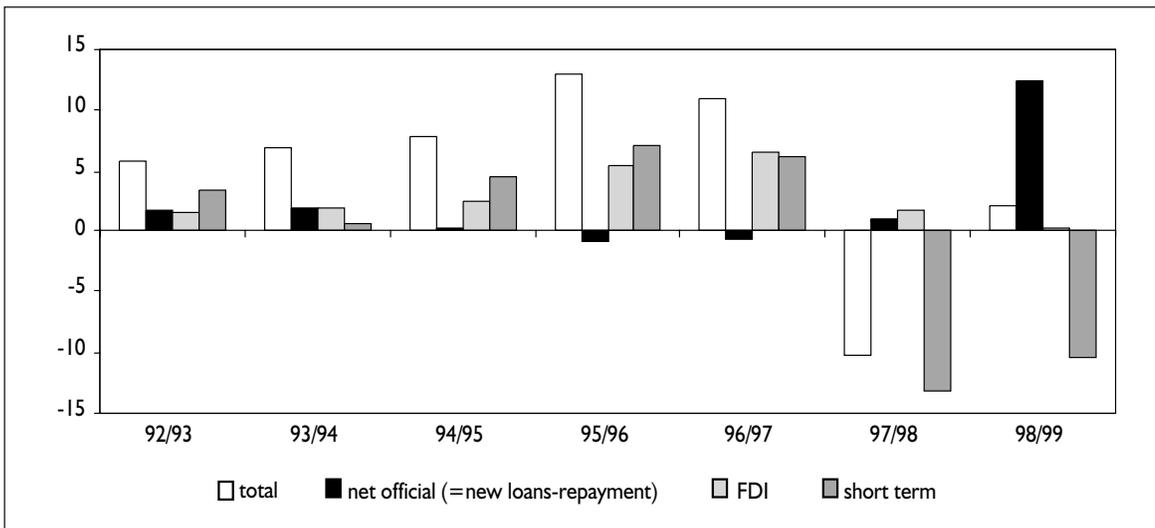
ing from nonresidents, foreigners were permitted to freely invest in stocks up to 49% of share capital, and the central bank withdrew from its obligatory intermediation in foreign exchange transactions.

High interest rates, a stable rupiah exchange rate, a growth-oriented environment and an expanding stock market resulted in constant inflows of foreign portfolio and short term capital (7 bln USD in acc. year 1995/96 and 6 bln USD in acc. year 1996/97). As a result, foreign reserves in Bank Indonesia have been steadily increasing. BI attempted to sterilize the resulting increase in base money by sales of central bank papers and through interventions on foreign exchange market. Capital inflows mainly took the form of borrowing of commercial banks, which in turn were converted it into local currency and lent to domestic corporate sector.

### 5.1.3. The External Sector

As a result of years of trade protection, Indonesia is not a particularly open economy in Southeast Asian terms – the average trade [10] is about 25–30% of GDP. The most important export items are oil and natural gas – their share in total exports is one-fourth. Indonesia has made an effort to reduce its dependence on oil, and the export composition weights towards manufactured goods, such as textiles, wood products and electrical appliances, and now the share of man-

Figure 5-8. Indonesia: Capital account (bln USD)



Source: IMF

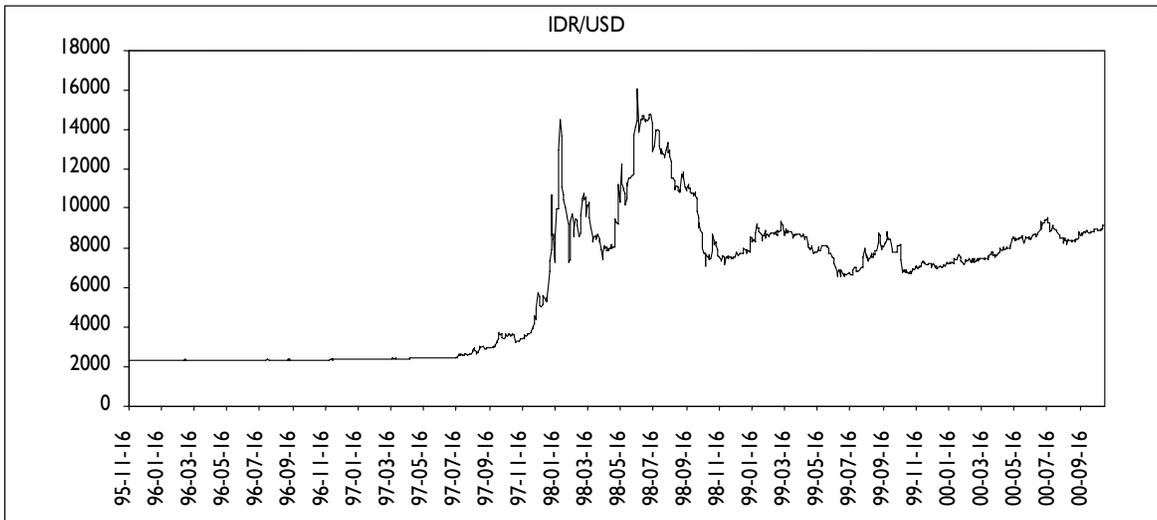
[7] In the beginning (mid-1980s) firms were encouraged to export all their production and to invest in remote areas.

[8] In Indonesia the reporting and accounting year starts in April.

[9] Article VIII of the IMF's Articles of Agreement, i.e. general obligations of members.

[10] (import+export)/2/GDP.

Figure 5-9. Indonesia: rupiah exchange rate (IDR/USD)

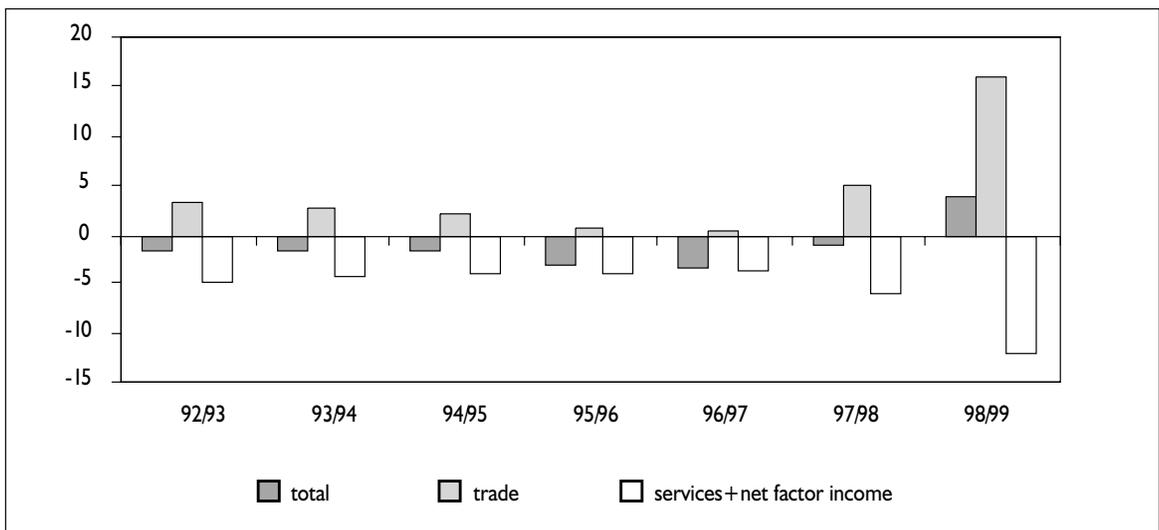


Source: Bloomberg

Manufactured goods in export is about 30%. Indonesia is also dependent on oil/gas sector-related imports (that accounts for 10% of total import) as well as on intermediate and capital goods imports. There is one major item to be mentioned with respect to imports – Indonesia was importing food (rice, wheat, etc.) for about 2–3 bln USD in years before crisis. Major trade partners are Singapore, US, Japan and the European Union. To meet the WTO criteria Indonesia was gradually reducing its import tariffs and they averaged 12% in 1997.

Because the authorities were monitoring and targeting the real exchange rate, the rupiah overvaluation was not a major issue in Indonesian external position – in 1990s before crisis it has been fluctuating around 100% (+/- 3.5%). At the end of 1996, due to an extremely weak Japanese yen, the CPI-based real effective exchange rate was somehow overvalued and stood at 105% [11]. But with a tradition of sluggish and steady rupiah adjustment, there was no threat of any drastic exchange rate adjustment.

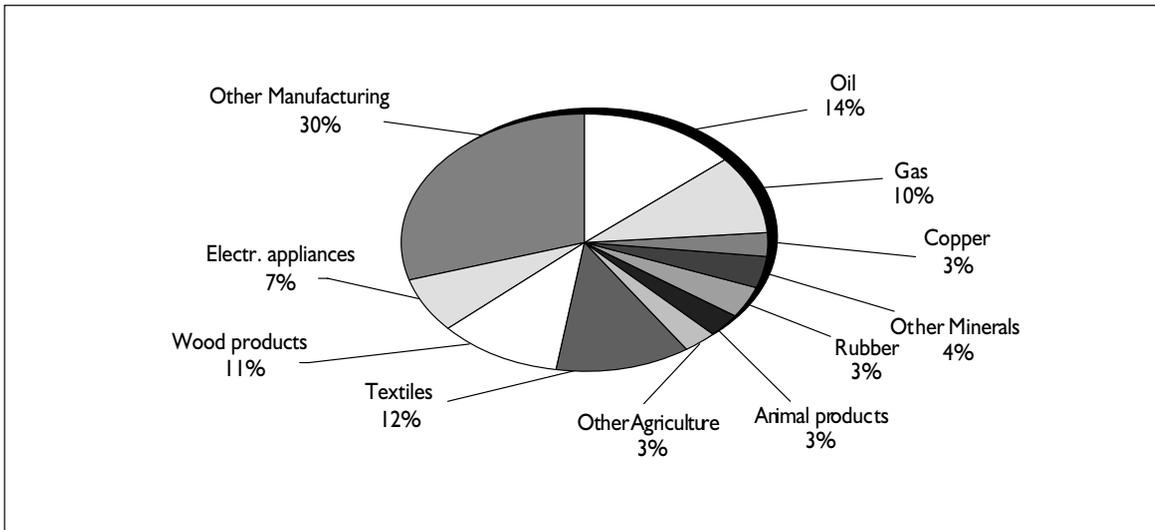
Figure 5-10. Indonesia: Current account (% of GDP)



Source: IMF

[11] It must be noted that there are well known problems in assessing real exchange rate, so estimates differ depending on the source. There is a consensus, however, that the real exchange rate was in the neighborhood of its parity equilibrium.

Figure 5-11. Indonesia: Export by sector



Source: IMF

In the 1990s, Indonesia was experiencing moderate current account deficits. From some 4% of GDP, the deficit has been contained to around 1% in mid-1990s and started to increase in the period leading to the crisis to reach 3–4% of GDP – it was, however, very reasonable compared to other Southeast Asian countries and could be interpreted as long term consumption smoothing. In addition, the trade balance was positive. The key items responsible for the current account deficit were the 7,6 bln USD capital goods import induced in large part by foreign investment, permanently negative service balance (3 bln USD in oil/gas service payments in 1996/97) and especially net factor income balance (6 bln USD of investment interest payments). These figures suggest that the side effects of a large long-term capital inflow (i.e. interest payment and capital good import) were the main factors in current account developments. As these payments were also the most inelastic items in the current account it can be concluded that this deficit had a rather structural character. Notwithstanding its moderate size, Indonesian authorities have taken some fiscal actions to contain these imbalances.

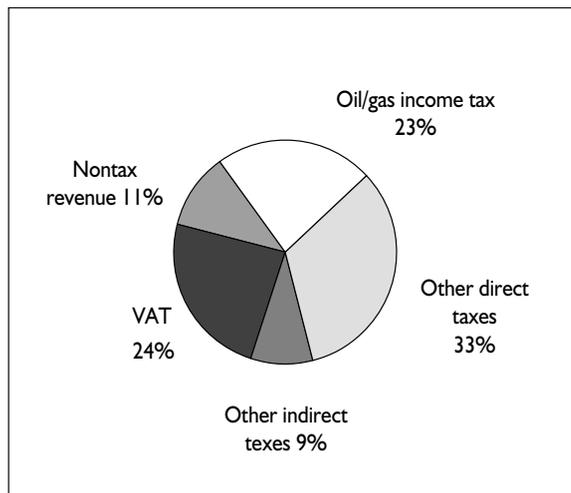
#### 5.1.4. The Public Sector

The size of the public sector in Indonesia is small. In 1996/97 federal governments raised 16% of GDP and spent 14.6% of GDP. The local finances did not exceed 1–2% of GDP. Direct taxes provided 56% of revenues, out of which the most important is a tax levied on oil production (23% of total budget). 33% came from indirect taxes, remaining 11% were derived from non-tax sources. On the expenditure side, the current (operative) expenditures had a 60%

share, while developmental (plus net lending) – remaining 40% of total expenditures. The authorities provided many subsidies, notably to food and electricity. The fiscal sector was far from being transparent. The participation in public infrastructure projects has been subject to restrictions and entails unclear, noncompetitive bidding. Well-connected companies could count on numerous tax concessions and exemptions, borrowing on favorable terms, etc. The fiscal balance was threatened by the possibility of a bailout of some insolvent financial institutions, part of budget deficits could be hidden in the balance sheets of state-owned banks.

In the late 1980s, Indonesia came through a process of fiscal consolidation, which resulted in the very positive

Figure 5-12. Indonesia: government revenues



Source: IMF

record of budget surpluses in the 1990s. Rather conservative fiscal policy was aimed at reducing domestic demand stemming from rapid credit expansion, as well as containing the current account deficit. In the accounting year 1996/97, the conventionally measured government budget surplus stood at 1.4% of GDP.

Prudent fiscal policy, combined with high rates of economic growth, led to a declining public debt ratio, which in 1997 equaled some 25% of GDP [12].

The government external debt in 1996/97 amounted to 56 bln USD or 23% of GDP – 44% denominated in USD and 37% in Japanese yen. But the main problem was a private sector external debt officially estimated at 57 bln USD. Given attractive interest rate differentials and a pretty free capital flow regime, the private sector got heavily indebted (mostly with short term debts). There is no reliable data on the extent of the debt or the precise maturity structure [13] – authorities were obviously interested in underestimating its share. According to the World Bank, 25% of the debt was short term, among Bank of International Settlements members, controlling most of Indonesian debt, this ratio was 61%.

Total external debt was officially 113 bln (around 50% of GDP). Other sources estimate this number to be around 130 bln USD, or even more. The debt required 15 bln USD debt-service payments in 1996/97.

## 5.2. The Crisis

### 5.2.1. Introduction

The direct cause of the Indonesian financial crisis was contagion from its Southeast Asian neighbors. After the Thai baht was floated, the general Asian market risk was reassessed sharply and caused adjustments which Indonesia couldn't endure or counteract. The mechanism of crisis development was more or less similar to other countries [14]. A gradual (yet fairly visible) deteriorating macroeconomic situation in the country was making international capital market anxious about the further profitability of capital investments in a given country, and generally about the future prospect of Asian-style capitalism. A long period of constant growth gave domestic firms a false impression of stability. A highly competitive and poorly regulated banking sector engaged itself in more risky projects to take advan-

tage of an investment boom. After the economy overheated, a slowdown was expected, some short-term capital was withdrawn, and a number of domestic firms hedged against possible currency depreciation. The downward pressure on the currency forced the authorities to choose one of the alternative solutions.

First, if they had sufficient foreign reserves, they could defend the currency by hiking interest rates, but it would lead to a contraction of the economy and could be acceptable only as a temporary measure (longer debt maturities are usually not affected). This problem becomes more serious if a large portion of domestic debt is short-term. A prolonged period of high short-term interest rates can force some cash-short companies to postpone investments or even default on their obligation. One default can cause another default, and suddenly the economy falls into illiquidity with serious contractionary consequences. Things get even worse if banks and firms invest in assets (like stocks, real estate) as asset prices usually decrease substantially in a crisis.

Secondly, the authorities could let the exchange rate depreciate. But if the economy has a large stock of external debt, especially in the private sector, or if companies borrow in foreign currency, having receipts in domestic currency (and unhedged) can become overwhelmed by the increase in their debt and get cut from any financing and eventually fall. There is usually no need for creditors to liquidate pending deposits – when the debt is mainly short term it is sufficient only to postpone or refuse to roll over.

Illiquidity turns into insolvency – the ratio of bad loans soars and if the banking system is weak, poorly managed and undercapitalized, some banks may go bankrupt. If there is little confidence in the financial system, there could be a run on other banks and a collapse as well. Authorities then have to get engaged in an emergency bail-out and massive capital injection, the monetary base explodes, inflation rises, currency plummets, depreciation fuels inflation (and vice versa), and external debt problems increase. Confidence among foreign investors evaporates. The lack of political will to stick to harsh anti-crisis measures and social unrest only makes the problem more serious.

So if there is both a large stock of short-term debt and a large stock of unhedged external debt, combined with other ingredients like a shortage of foreign reserves, a weak financial system or political instability, the authorities might have no degree of freedom to maneuver and no power to reassure foreign and domestic investors about the safeness of

[12] Compared to 55% in 1987.

[13] Bank Indonesia probably lost track of all private sector foreign borrowings. Other estimates suggest 65 bln USD or even 80 bln. There are also well understood problems with maturity classification of different loan arrangements – the average maturity of foreign debt was in the neighborhood of 18 months.

[14] Japan was the first example, that the times of highly regulated economies whose growth is based on extensive mobilization of national (or foreign) resources might come to an end, and that their growth prospects has to be revised.

their investment. Such a situation falls under the term "vulnerability". When this becomes common knowledge, speculators join capital outflows and sell the domestic currency short. At this point, it is virtually impossible to reverse the crisis without a cost. In this respect, Indonesia typifies the worst-case scenario.

### 5.2.2. Indonesia's Vulnerability Analysis

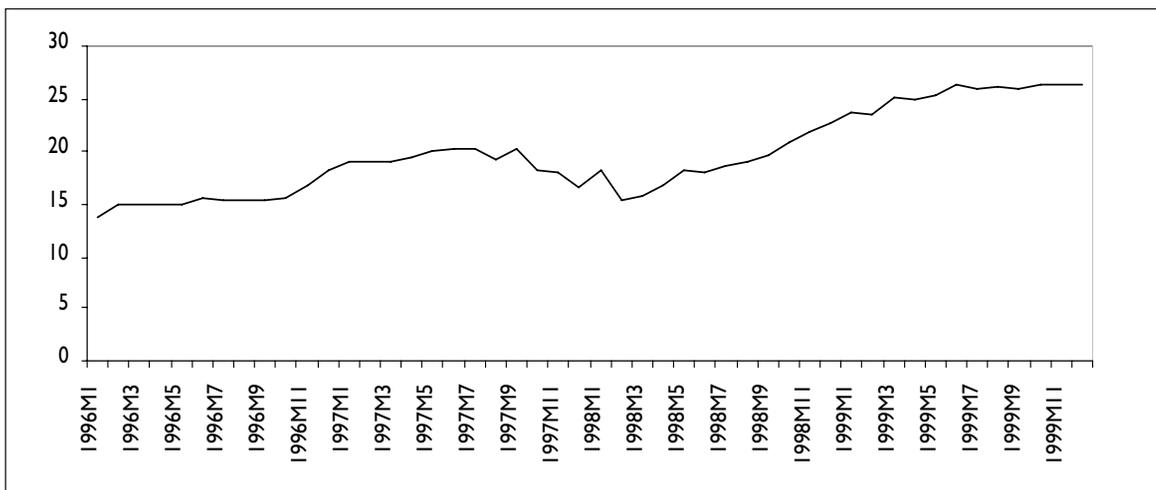
For decades, economists were making an effort to improve crisis predictability and their work is far from being accomplished. For some time, the occurrence of a currency and financial crises is explained in terms of "vulnerability". When certain conditions are satisfied there is an increased probability of a crisis, but its timing and actual occurrence are determined by market sentiment and shifts in expectations.

Usually some macroeconomic indicators (called "leading crisis indicators") endowed with above average predictive power exceed their standard values before the crisis and this is the most frequent way of describing vulnerability. It is possible to construct a so-called "early warning system" (see, for example, Edison (2000)) based on the combination of these indicators that would issue a signal warning against a possible crisis. However, the performance of such systems leaves much to be desired [15]. Many researchers come up with many proposals for leading indicators but the most popular include: real exchange rate, foreign reserves, current account, the level of short term debt (external and domestic), rapid credit growth, fiscal and monetary expansion, short-term capital flows as well as other, hardly mea-

surable features like the extent of moral hazard ("the incentive structure of financial system"), exposure to contagion etc.

From the point of view of a domestic investor borrowing externally, or a short-term international investor holding the rupiah, the most important point is IDR/USD exchange rate, at which they exchange their rupiah receipts into hard currency. They thus count on the authorities that the policy of assuring exchange rate stability won't be altered. For the defense of the currency against pressures, there is an essential need of foreign reserves. Indonesian foreign exchange reserves stood at about 20 billion USD in mid-1997. Total external debt service to foreign reserves ratio gives an answer to the question of whether the country can serve its current obligations. This debt service (interest and amortization) was about 15 bln USD in 1997, producing a dangerously high ratio of around 75%. This means that without further foreign loans, Indonesia would have had problems meeting its obligations. Debt can be serviced also by the export proceeds. But the ratio of external debt service to export stood at around 30% – the highest among Southeast Asian countries. Once all short-term creditors would like to withdraw their funds at one moment, would the reserves be sufficient enough to meet their demand? Again, the ratio of total external short-term debt plus external debt service to foreign reserves, depending on the estimate, ranged from 210% to 320%. It has been therefore absolutely essential for Indonesia to have its short-term debt rolled over, otherwise it would have to default on its obligations. The country's external finances depended wholly on the sentiments of short-term foreign creditors and domestic investors' willingness to hedge foreign debt, as well as their

Figure 5-13. Indonesia: Total reserves minus gold (bln USD)



Source: IFS

[15] Actually, Indonesia did fairly well in the rankings of crisis probability.

beliefs about the future exchange rates and the behavior of other market participants.

A second indicator of financial solvency is the money to foreign reserves ratio. In the event of financial panic and irrational domestic asset selling, the central bank should be able to cover its liabilities (reserve money) – theoretically all the rupiah (cash or power-money) can be exchanged into hard currency if the central bank sticks to its exchange rate. A ratio below 100% is a good sign for the soundness of the system. In Indonesia it was 100%. In practice, BI acted as a lender of last resort, so if it was ultimately determined to support the banking system in the event of financial panic, all liquid money assets (M1 or even M2 [16]) could potentially be converted into foreign currency. Therefore the ratio of monetary aggregates to foreign reserves is another leading indicator of possible distress [17]. The ratio of money (M1) to foreign reserves was 135%, but more commonly used M2/foreign reserves ratio, as a result of thriving banking sector activities, was about 700%, which can be regarded as very dangerous [18]. On the other hand, the informative content of this indicator is not very clear, as M2/FX ratio is to large extent country specific and reflects rather the development of domestic banking system.

Although the indicator of the real exchange rate and fiscal stance were well below the warning level, the current account deficit needs to be addressed. Throughout the 1990s, the balance was negative, while standing at 3% of GDP in 1996 it was not a big problem in the period leading to the crisis. Nevertheless, when adjustment had been made for usual oil/gas surplus the deficit would have risen to more than 5% of GDP. The variability of oil prices and ever increasing foreign debt service payments might have cast some doubts on its sustainability.

The notion of sustainability can be implemented by introducing non-increasing foreign debt to GDP ratio. The current account is sustainable if it doesn't cause an excessive build-up of foreign debt. By taking arbitrary 1% difference between long-run interest rate and long-run growth rate Corsetti, et.al. (1999) show that a sustainable current account in case of Indonesia equals about 3.3% of GDP, which was more or less equal to its actual record. In accordance to that finding, Milesi-Ferretti and Razin (1996) argue

that the Indonesian deficit pattern in the 1990s matched the consumption smoothing theory rather closely, so it should be nothing wrong with such a deficit. But the consumption smoothing theory predicts that at some moment in future there would be a switch into a surplus. So, from a political-economic point of view, the deficit is sustainable if it can be reverted into a surplus according to a optimal development path, without a crisis or drastic policy change. But in fact, in 1996–97, the current account imbalance seemed rather structural. FDI inflows, the main source of current account financing, were never sufficient to cover the deficit, and Indonesia had to rely on new foreign loans. This led us to the issue of sustainability of capital inflows, and thus, sustainability of economic growth.

Indonesia grew at average annual rate of about 7% in the first-half of the 1990s. That was possible thanks to sizeable capital inflow, and, vice versa, the capital was attracted by anticipated high rates of growth and investment opportunities. However, the abundance of capital, high investment rates and rapid credit expansion led to deterioration of the quality of investment projects. Politically connected monopolies paid no attention to cost reduction, a bulk of government investments was designed under political or propagandist considerations rather than out of efficiency reasons. The private corporate and banking sector, facing increased supplies of capital and a tradition of poor regulation, turned to more risky projects. Claessens et.al. (1998) remark that the return-on-assets ratio has decreased in Indonesia from 8% between 1988–1994 to 5.5% in 1995–1996 [19].

However, the main vulnerabilities of Indonesia originated from a building up of short-term external debt, a shaky domestic banking system and rising political instability.

Ageing President Soeharto showed not only no signs of retiring but had also been very reluctant to even discuss the issue of his successor and his idea of how the transition of power might be accomplished without political and social tension what in presence of Indonesian political strife and social/ethnic unrest has been a matter of importance. There was also a lack of confidence that in an event of a crisis the corruption-ridden government could deal with it effectively.

[16] If banks allow the depositors to break time deposits.

[17] Compare Obstfeld and Rogoff (1995).

[18] It is worth to notice that in November 1994, just before Mexican crisis M2/foreign reserves were 9.1 in Mexico, and 3.6 in Brazil and Argentina. In Malaysia it was 4.8.

[19] The issue of capital productivity is closely linked to the ongoing and yet unresolved debate about the causes of the Asian miracle, namely whether the fast growth of Asian countries results just from abundance of capital and labor force or from productivity growth. The first view has been advanced by Young in the beginning of the 1990s and popularized by Krugman (1994, 1998). They argue that the total factor productivity (TFP) in East Asia has been significantly lower (sometimes even close to zero) than the rate of GDP growth. There are also studies that contradict this view. Sarel (1997) finds that TFP growth in Indonesia in 1978–1996 has been quite remarkable and amounted to 1.2% per year. Also the estimates of incremental capital output ratio (ICOR – a measure of capital productivity) show the decrease from 4.0 in 1987–92 to 3.8 in 1993–96 indicating a some improvement in investment efficiency. But on the other hand (according to World Bank data), ICOR has been rising (weakening efficiency) till 1987 and again from 1994.

**Table 5-1. Noncompliance to prudential rules (in number of institutions). Capital adequacy ratio (Car), Legal lending limits (Lil), Loan-deposit ratio (Ldr)**

	Total in category	Car	Lil	Ldr
State	7	0	2	1
Private national	166	18	56	11
Local development	27	2	3	0
Foreign and joint	40	1	9	6
Total	240	21	70	18

Source: Montgomery (1997), BI, data for 1995

**Table 5-2. Banks' performance: Return on assets (Roa) and Car**

	96/97		97/98		98/99	
	ROA	CAR	ROA	CAR	ROA	CAR
Comm. banks	1.17	12.2	0.38	4.3	-22.6	-24.6
State	0.82	13.9	0.34	2.4	-24.9	-28.4
Private forex	1.13	10.3	-0.47	5.3	-29.2	-18.8
Private nonforex	0.31	9.7	0.97	15.9	-0.35	10.4
Joint	2.49	18	1.54	4.8	-9.88	-7.7
Foreign	4.48	13.8	5.18	12.8	-0.77	12.9

Source: BI

What concerns the banking sector, its weakness was structural. The audit standards, transparency and compliance to prudential principles record was astonishingly poor. In 1995, half of private banks and 40% of state banks failed with respect to either capital adequacy ratio, legal lending limits or loan deposit ratio.

Another issue was that state banks did not necessarily make loans on a commercial basis and were subject to political pressures. This problem was also present among private banks often maintaining close connections with their borrowing customers [20] which created incentives for risky or even fraudulent lending to these customers and did not encourage accurate loan monitoring. Poorly capitalized and monitored banks competing with other similar small banks on a segmented market had even more incentives to make riskier loans, especially if the management expected to become bailed-out if things go wrong (moral hazard).

This quickly led to the problem of bad loans – about 10% of total loans were classified as non-performing [21]. State banks had an especially bad record with this share at 17%, while private national banks had, on average, 5% of their loans non-performing. Indonesia also had previous experience with banking scandals, financial sector bankruptcies and even bank runs. Instead of closing insolvent and bankrupt banks, the authorities arranged bailouts, encouraged mergers and provided other forms of support. They also announced that no state bank would be left alone to default on its obligations. Such actions were the reason why

bank managers could have an impression of having (implicit) government guarantees. The moral hazard problem became even more serious in the presence of a poor bankruptcy law and inconsistencies in law enforcement.

The combination of a relatively open financial market, growing eagerness of global investors to put money into Asia, high Indonesian interest rates and expanding Indonesian corporate sector resulted in large capital inflows – indeed larger than banks and companies could wisely invest. The dangerous side effect of this inflow and market circumstance was a mismatch in the balance sheets of banks and corporation. Maturity mismatch resulted from the use of short-term debt to finance long-term projects, while currency mismatch emerged from the use of foreign-currency denominated loans to credit local currency earning projects.

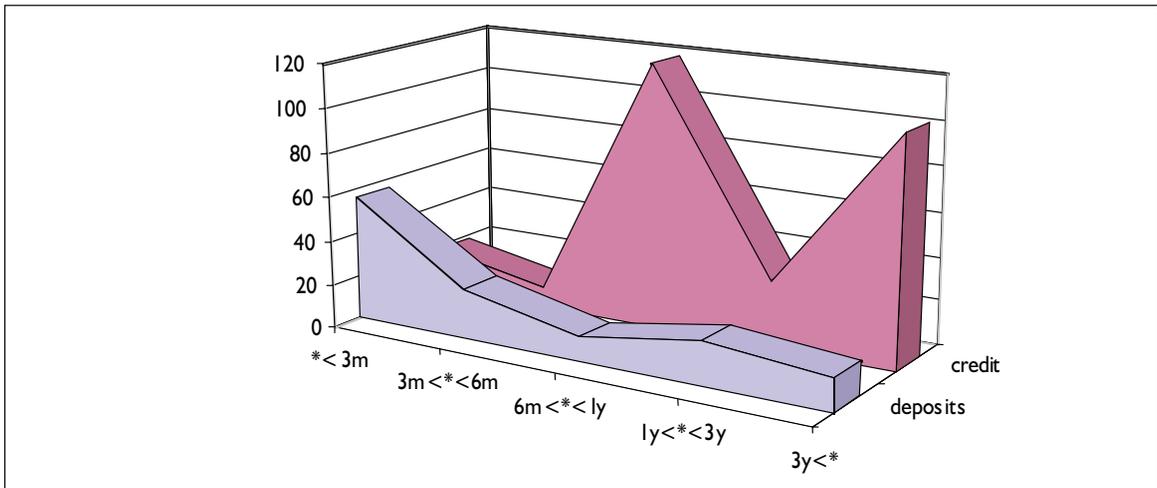
In the pre-crisis period this mismatch has not created many problems because of exchange rate stability and a tradition of a smooth rollover of short-term debt.

The above-mentioned developments (large interest rate differentials, open capital market, (false) impression of exchange rate stability, growth environment, smooth debt rollover) were responsible for the key component of Indonesian vulnerability, i.e. the existence of immense unhedged foreign currency liabilities. In July/August 1997, one of the major global financial consulting companies surveyed 34 Indonesian chief financial officers. 2/3 of them had more than 40% of their debt in foreign currencies. Half of this amount was completely unhedged, and most of the rest

[20] Like the ownership of poorly regulated banks by non-financial companies or political connections between bank managers and borrowing firm management.

[21] Data for 1995. For end-1996 estimates were about 13%.

Figure 5-14. Indonesia: maturity structure of banks



Source: BI, IMF

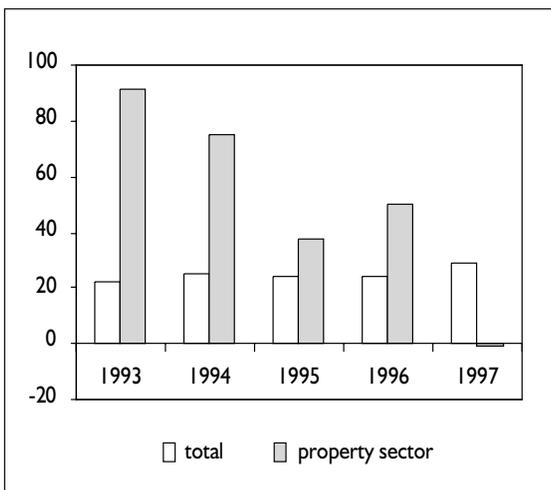
had well under half of their debt hedged. Borrowing US dollars was part of life in Indonesia – "it was like going to McDonald's" [22]. Everyone assumed that the money would always be available, and took advantage of this situation. After 30 years of steady economic growth, the corporate sector didn't seem to fear economic downturn.

Some of the loans were used to finance speculative investments in such areas as equity purchases and real estate. Property loans grew at an annual rate of more than 60% during 1992–1995 (compared to 20–25% percent rate of growth for total credit) and in April 1997 accounted for 19.6% of outstanding bank credits. To restrain the growing

exposure of the banking system to this sector BI restricted in July 1997 commercial banks from extending new loans for land purchases and property development (except for low-cost housing). Total credit growth also continued, in spite of consecutive statutory reserve requirements increases (from 2% to 3% in January 1996 and an announcement of a rise to 5% in April 1997) and other attempts by BI to contain it.

The growing uncertainty about the future development on the exchange rate market was reflected by an increase in the volume of forward and swap rupiah transactions. Their average daily turnover rose from around 4.5 bln USD in early 1997 to about 6.2 bln USD in June/ July 1997. The increase in trading illustrates increased hedging activities among externally indebted domestic companies. However, nobody expected that a sharp downturn and such a severe crisis would erupt.

Figure 5-15. Indonesia: bank credit growth (% p.a.)



Source: IMF

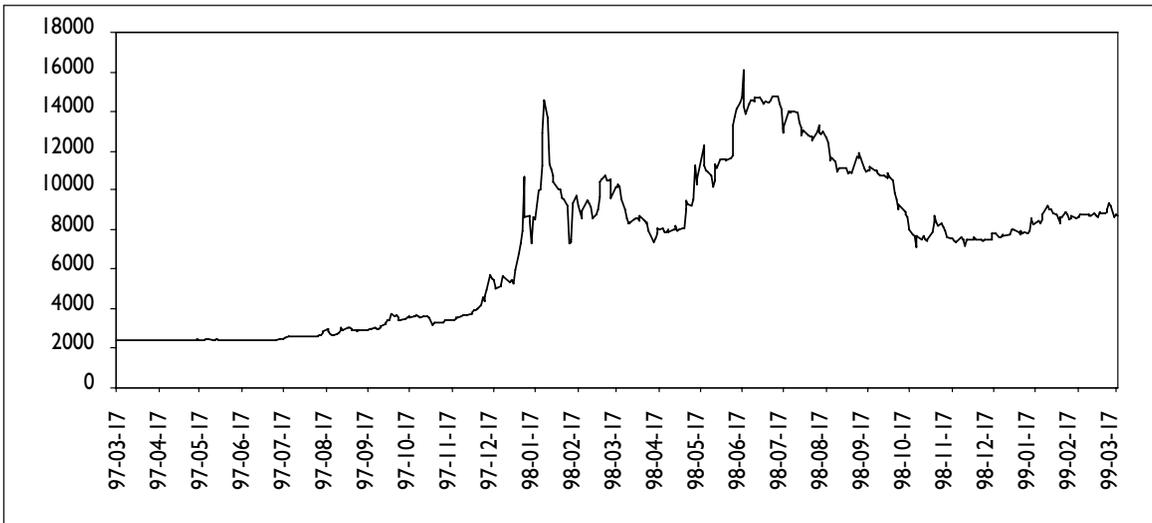
### 5.2.3. Crisis Development

Indonesia's troubles began on July 2, 1997 when the Thai baht peg to the USD collapsed. Immediately, market confidence in Southeast Asian economies was reassessed. Unexpected devaluation of the baht meant that any country with similar economic and export structure and comparable fundamentals is likely to give up its exchange rate policy under similar circumstances. Such an event is called a "wake up call", or a focal point for coordinating market expectations - a "sunspot".

A prolonged period of downward pressure started. The yield curve inverted dramatically. On July 11, the Philippines gave up supporting its peso, while the Indonesian authorities

[22] After The Wall Street Journal 31 XII 1997 quoting one Singapore based Indonesia-investing fund manager.

Figure 5-16. Indonesia: rupiah exchange rate (IDR/USD)

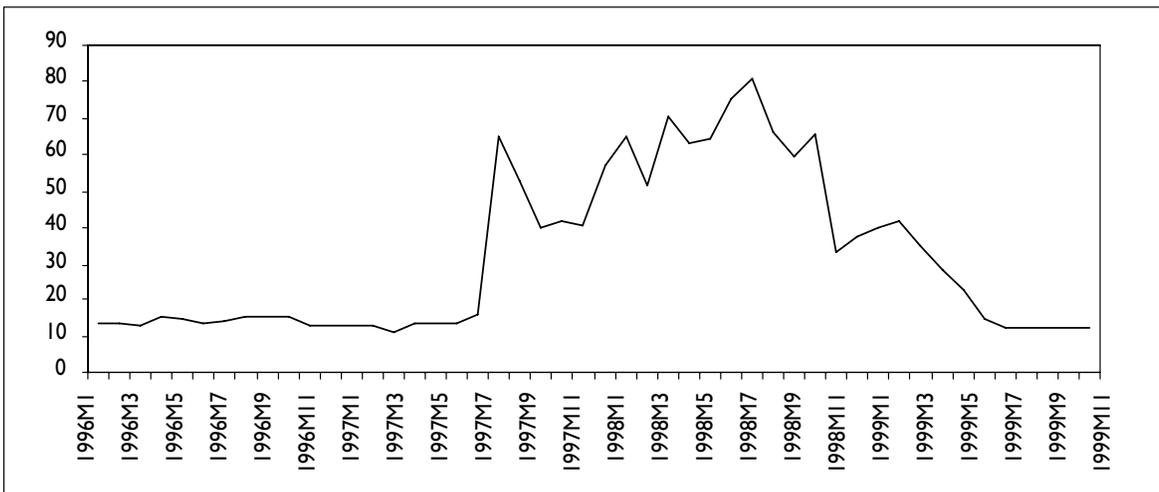


Source: Bloomberg

widened the trading bands from 8% to 12% (and intervened when the rate moved outside the band). On July 14, Malaysia gave up its currency peg. It took one more month and a 15% depreciation until Bank Indonesia floated the rupiah and doubled short-term interest rates to over 25% to support its value [23]. On August 29, BI introduced

restrictions (up to 5 mln USD per customer) on nonresidents' trading in forward currency contract (i.e. supposed speculation). Despite this, capital outflows continued and by October 8, the rupiah/dollar exchange rate had already depreciated cumulatively by 46%. By that day, matters went so badly with domestic financial and corporate sector

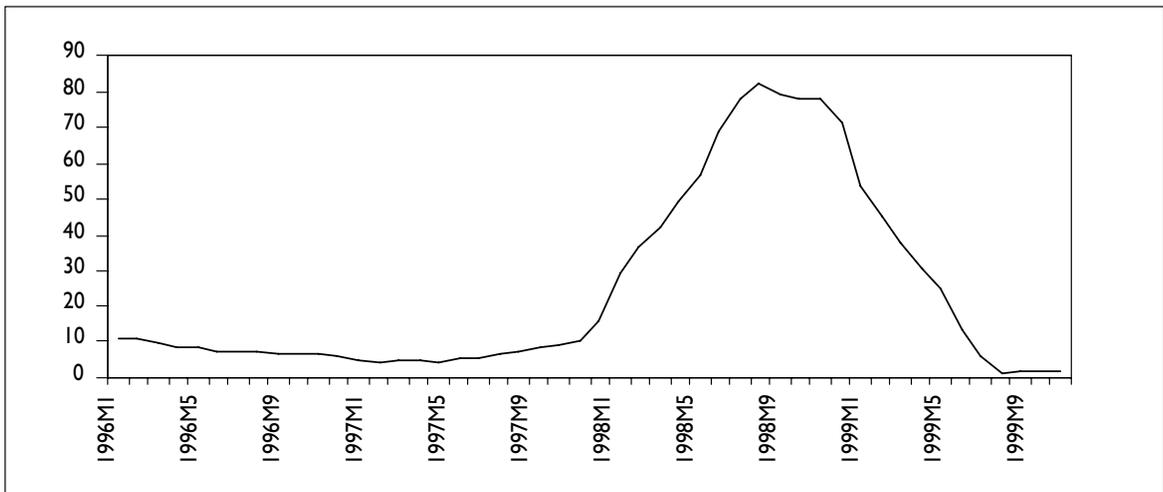
Figure 5-17. Indonesia: Money market rate



Source: IFS

[23] To what extent the rupiah collapse has been caused by speculators or by domestic investors suddenly starting to hedge against exchange risk is a subject of great debate. Indonesian authorities (Minister of Justice in August) claimed that the speculators were guilty and their activities could be interpreted as subversive criminal actions (there is a death penalty for subversion), while hedge-fund managers and other participants suggest that this was not the case. Major funds were fully invested in the rupiah and they even supposedly bet on the rupiah rebound at some moment. But it was the case that many unhedged domestic companies decided to insure in forward market against the rupiah decline. Of course, speculators joined the market when depreciation seemed to be inevitable.

Figure 5-18. Indonesia: Inflation annualized



Source: IFS

that Indonesia's government decided to request IMF assistance.

The financial and the corporate sector was confronted with an increase in the rupiah value of their foreign indebtedness. Most private companies were able for some time to cover their foreign exchange losses but they were dramatically running out of cash, unable to refinance their short term debt and watching it rapidly expanding (banks and foreign creditors refused to rollover the existing short term debt). On the other hand, banks were unable to crack down on their debtors because of a weak and inefficient bankruptcy law. This, together with tight liquidity and high interest rates, gradually pushed many banks and companies into technical bankruptcy. At end-October, rating agencies downgraded the ratings of 10 big Indonesian banks from neutral to negative, further limiting their borrowing abilities. The already poor confidence in the national banking system brought about a gradual build-up of runs on some of the private banks, reflecting a "flight to quality", as depositor perceived state banks to be safe and were moving deposits from presumably troubled private banks. As a result of a crisis, the stock market index immediately lost 30%, and then a further 10%, before November 1997 because investors lost confidence. The real estate market collapsed as well. Office, residential and retail property rent and prices (usually quoted in USD) fell from 30% to 80% between June 1997 and June 1998.

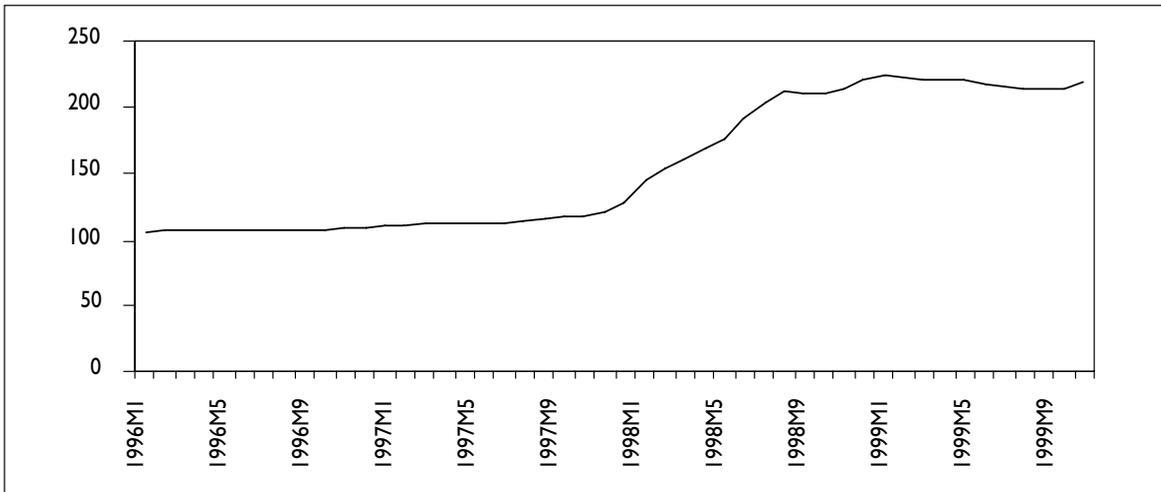
On October 31, 1997, the IMF unveiled the 23 bln USD aid package for Indonesia and on November 5 approved a 10 bln USD standby loan facility. Apart from a request for

structural reforms and tight monetary and prudent fiscal policy, the package included the requirement for the closure of the 16 most insolvent (bankrupt) banks. Authorities, however, failed to extend appropriate deposit guarantees and a panic erupted among depositors running the whole system [24]. A massive and sudden withdrawal of deposits started, a large number of banks failed to meet their obligations and had to resort to central bank liquidity support.

One reason for a sudden drop in overall confidence was that people saw the end of the regime approaching quickly. They doubted the political capacity of the government to fulfil its commitments to the IMF. In the beginning of December 1997, Soeharto was ordered to retire to bed and disappeared from public life for about a month. The implementation of IMF packages was already delayed or off-track. The rupiah collapsed badly to almost 6000 IDR/USD. Soeharto reemerged in public on January 6, 1998, only to unveil the 1998/1999-draft budget that had virtually nothing to do with the reforms agreed upon with the IMF. At that moment, confidence in the Indonesian government was lost completely and on black Thursday, January 8th, the rupiah plummeted to 10000 IDR/USD – and later even to 14000. The market panic across the country in anticipation of food shortages and overall social unrest and violence started. Food prices skyrocketed indeed and through 1998 increased by 100%, compared to 70% of total CPI increase. Financial panic continued, the surge in liquidity provided by BI to tumbling banks (about 7% of GDP before end-January) far exceeded the real liquidity needs of the economy and contributed to sharp rise in inflation and put further

[24] Authorities guaranteed only deposits up to about 5000 USD. The guarantees covered 90% of depositors but not even 20% of total deposits. However, the lack of confidence in banking system was so great that there were hardly any awareness of any deposit guarantees (or belief in such guarantees) – depositors with deposits less than 5000USD were also running on banks.

Figure 5-19. Indonesia: Consumer prices



Source: IFS

Table 5-3. GDP growth decline components in 1998

Component	Growth	% in GDP decline
Domestic demand	-17.6	134
Consumption		
Private	-2.9	13
Public	-14.4	8
Investment	-40.9	96
Stock changes	-	17
External demand	-	-34
Export	10.6	-21
Import	-5.5	-13
Total GDP	-13.7	100

Source: BI and Central Bureau of Statistics

downward pressure on the rupiah – the inflation-devaluation spiral began. In order to stop the bank runs, on January 26, 1998, the government announced a blanket guarantee for all deposits as well as the establishment of a banking sector restructuring institution.

Such a massive depreciation had a devastating effect on the balance sheets of banks and companies. By December/January, many of them already quietly stopped paying back loans. The overwhelming majority of banks became paralyzed with an average of 50–70% share of non-performing loans. The debt moratorium on corporate debt payments announced on January 27, 1998 was the official confirmation of this and was met with mixed reception, but also with relief that any actions were taken at all. In the meantime, on January 15, the second agreement with the IMF was concluded – previous reform claims were reiterated but the policy somehow eased as the seriousness of the crisis has been realized. After these measures, the rupiah stabilized and moved within 8000–10000 IDR/USD band from end-January to the beginning of May.

Tight financing conditions, heavy burden of debts, cash-shortages, negative wealth shock connected with rapid depreciation of asset prices, political instability and uncertainty about the future of the regime, social and ethnic tension, accelerating inflation and general uncertainty about the prospects for the economy were the main reasons for the sharp domestic demand contraction. Individuals, expecting tough times, postponed consumption and switched to savings. The corporate sector halted or delayed investment plans. Consumption fell by 9% and investment by 45%. A decline in demand and damage to production and distribution facilities caused by social unrest contributed to a sharp contraction of economic activity, the most severe in construction (-37% from 1997 to 1998) and financial, rental and corporate services (-58%). The total output declined in 1998 by 14%. Both exports and imports fell but import contraction was much more severe (-49.4%) and was a reason for achieving a current account surplus of 3.8% of GDP in 1998. The surplus (net external demand) however was by no means sufficient to offset the fall in domestic demand. The surplus in the capital account was caused by a large

inflow of official aid, while the outflow of private capital was not reversed. Inflation escalated to the level of 80% in 1998 in response to panic food buying, interrupted production, social violence and increased prices of import commodities. Unemployment rose from 5% to 28% at end-1998.

On March 10 1998, Soeharto was reelected to a 7th term in office. On May 4, the government announced sharp price increase of gasoline and other utilities. Widespread protests erupted, among them most importantly student-led anti-regime demonstrations calling for the President's resignation. The army cracked down on protesters. Embassies and foreign companies evacuated non-essential staff. On May 19, students started parliamentary compound occupation. The student demonstrations seeking political reforms were accompanied by rioting, widespread looting, destruction, crime, as well as religious and ethnic conflicts. Anti-Chinese rioting directed mainly at shopkeepers in small town resulted in complete disruption of supply distribution channels and shortage of basic products. The general erosion of social order went out of control. Over 1000 dead were reported in the May riots. The hard-won relative stability of the rupiah was immediately lost, runs on banks and massive deposit withdrawals started again, the currency crisis renewed and the rupiah plunged to over 16000 IDR/USD. It took five months to bring it back under 10000 IDR/USD. On May 21, urged by his affiliates, Soeharto resigned.

Changes in key positions in the administration contributed to delays in the implementation of economic reforms. With reference to that and to harsh economic circumstances, the IMF rearranged its agreements with Indonesia towards easier conditionality. The situation started to stabilize. Food security has been gradually restored through emergency import and increased food subsidies. Monetary stability gradually returned around October 1998, inflationary pressure eased and the rupiah stabilized around 9000 IDR/USD. Price levels also finally stabilized and the beginning of 1999 saw some deflation. The sluggish process of financial system and corporate debt restructuring started.

## 5.3. Response to the Crisis

### 5.3.1. Introduction

When the crisis unfolded, market confidence in Indonesia disappeared and domestic conditions started to deteriorate quickly as economists and market participants came to the conclusion that the rescheduling of Indonesia's debt and the rescue of the financial system would require the backing of western governments and international institutions: "No one

would want to buy Indonesian debt if it was just Indonesian debt" [25]. The Indonesian authorities also noticed that without additional backing and emergency loans the country would soon default on its debt. So, the IMF assistance was requested in October 1997 and the first Letter of Intent, aid package of 23 bln USD and a 10 bln Standby arrangement was announced in early November. The IMF, not expecting the seriousness of the crisis, insisted on tough monetary and fiscal policies as well as economic reforms, including the closure of some bankrupt banks. These measures, however, only aggravated the bank-run problem. On the other hand, there was no political will to implement the reforms. As result, confidence further collapsed. Indonesia and the IMF signed the second agreement in mid-January 1998. The hardships with implementation of agreed reforms and civil unrest again threw the program off-track. The IMF has been several times threatening to postpone or suspend the aid. From the third letter of intent in April, and an agreement with the new government after the fall of Soeharto, the IMF acknowledged the severe economic conditions and approved the implementation of less stringent measures. In July 1998, the Standby agreement was replaced with an Extended Fund Facility program.

As of June 2000, the international aid commitment to Indonesia amounted to 50 bln USD: 12 bln from the IMF, 10 bln from multilateral financial institutions (like World Bank or Asian Development Bank) and 15 bln from bilateral agreements and programs (like Japanese Miyazawa plan). About half of this package, i.e. 22 bln USD, has already been disbursed.

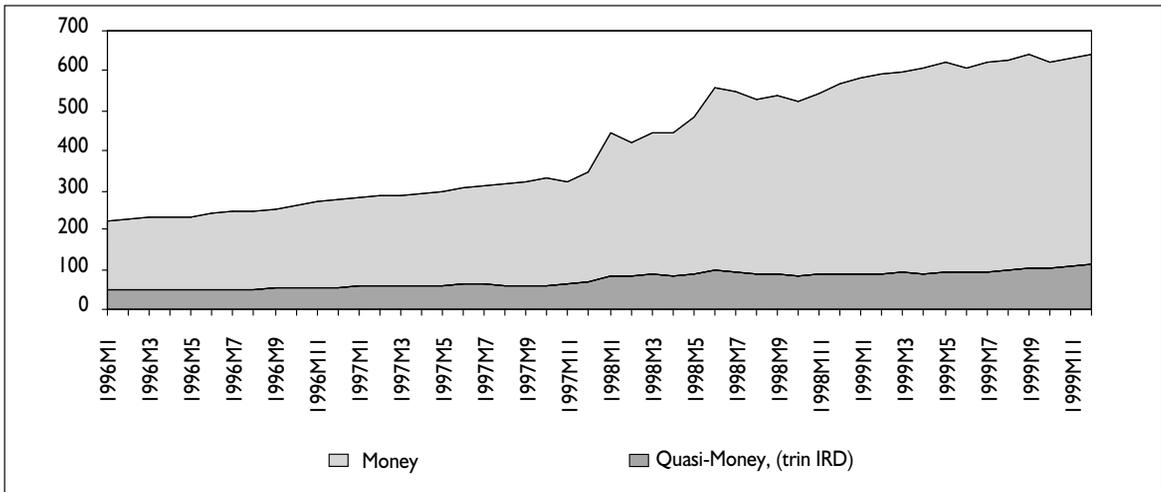
### 5.3.2. Monetary Policy Response

The government responded to the first run on the rupiah in July/August 1997 with a drastic credit contraction. BI stopped repurchasing central banks certificates, decreasing the supply of local currency in an effort to discourage market participants from exchanging the rupiah into hard currency, interest rates rose from around 15% to 30%. Although official statistics do not show a sharp decline in foreign reserves, part of the stock was probably tied down in forward contracts, so the usable reserves were actually lower. From September 1997, the reserves started to shrink much faster. Facing a deteriorating domestic situation, from September BI gradually cut yields on its commercial papers.

Monetary policy was being carried out in an environment of high debt-equity ratios and overall financial system distress, which made a prudent policy of high interest rates almost impossible to implement. Eventually, the Indonesian authorities had to resort to IMF help. One of the main goals that the IMF program pursued was to restore market confidence. Based on the presumption that the Indonesian economy was suffering from structural weaknesses than

[25] After The Financial Times 30 I 1998 quoting a regional economist of one major western banks branch in Jakarta.

Figure 5-20. Indonesia: money and quasi-money (trln IDR)

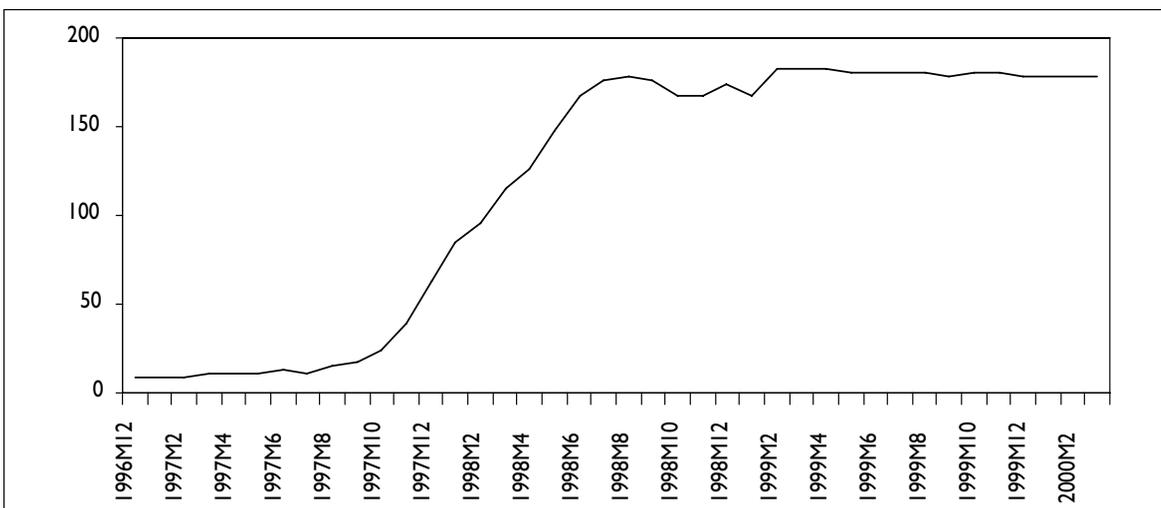


Source: IFS

traditional, temporary macroeconomic imbalances and might require some real adjustment, there was no specific exchange rate or interest rate target. Instead, the authorities decided to stick to nominal base money targets as a nominal anchor consistent with the free flow exchange rate regime. During the first week of Indonesia's program (November 1997), the authorities engaged themselves in unsterilized intervention and allowed for short term interest rates hike again – the rupiah appreciated and regained some losses. However, within less than a week – and contrary to the agreement with the IMF – BI cut the interest rates to their initial level and started to increase liquidity. The result was a near collapse of the

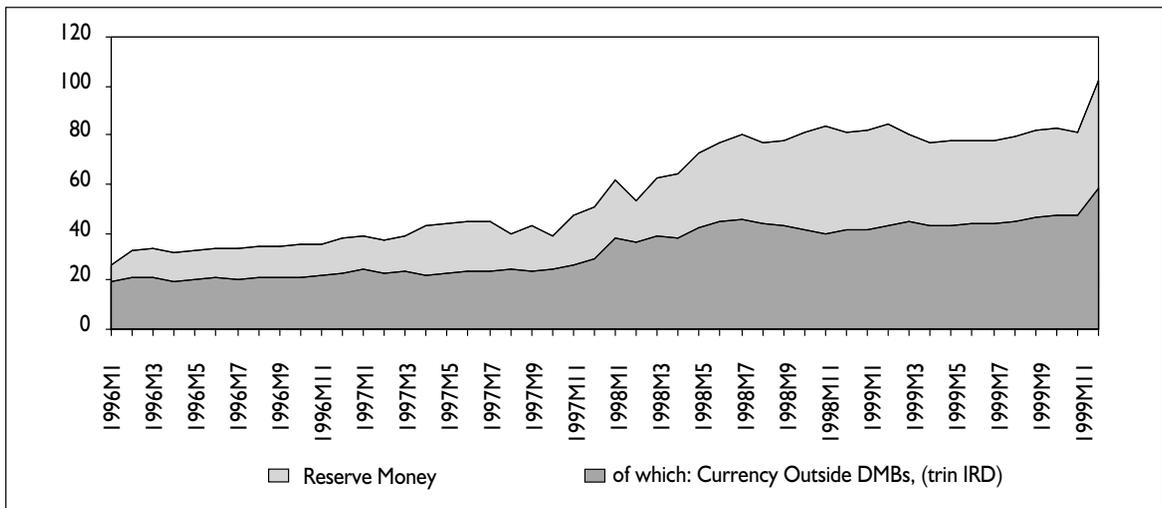
banking system during November 1997 - January 1998. After runs on banks started, the authorities completely abandoned tight policies agreed with the IMF and injected massive liquidity into the banking sector as people were withdrawing their deposits. There were only limited efforts to sterilize this increase in net domestic assets by open market operations and foreign exchange interventions – base money grew by 126% in six months instead of 10% as was intended. Cash-in-circulation also increased as a result of panic withdrawals. The authorities and the IMF grossly underestimated the negative sentiment and a drop in confidence of market participants. The BI lost control over monetary aggregates.

Figure 5-21. Indonesia: liquidity support (trln IDR)



Source: BI, IMF

Figure 5-22. Indonesia: reserve money and currency in circulation



Source: IFS

There were two major waves of bank runs – in November 1997/January 1998 and in May 1998. In both cases, liquidity support was extended, base money rapidly increased, as did the currency in circulation and broad money, thus fueling inflation. The total liquidity support surged from 9 trillion rupiah at end-1996 to 62 trillion rupiah at end-December 1997 (equivalence of about 7% of GDP). By June 1998, the figure stood at 168 trillion rupiah. The open market operation and selling of hard currency absorbed only 30 trillion rupiah.

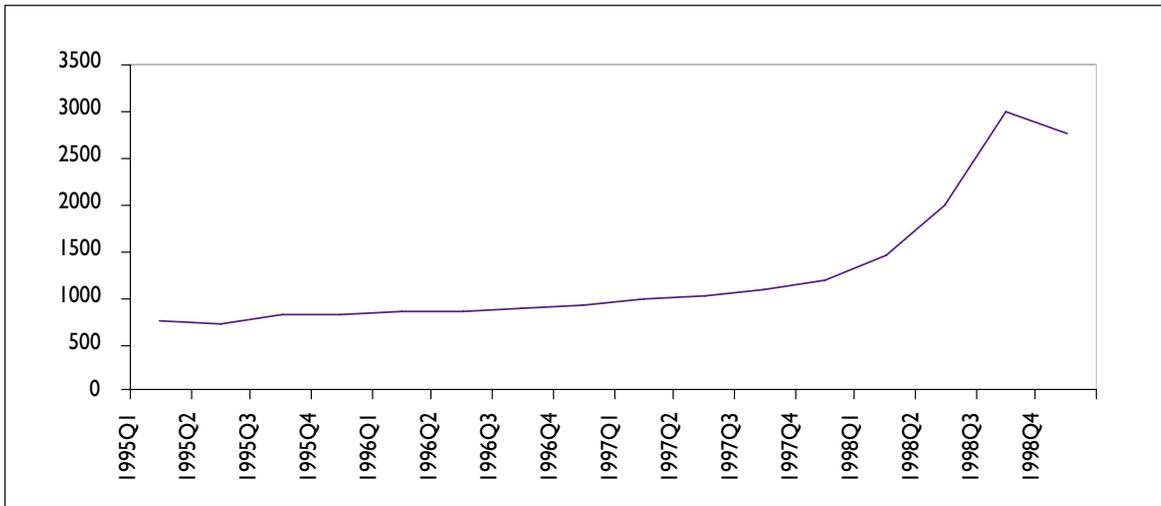
In the meantime (February 10, 1998), reflecting a desperate attempt to restore market confidence, at the initiative of President Suharto, the Finance Minister announced that Indonesia was considering establishing a currency board by fixing the rupiah at around 5,500 IDR/USD. The idea was that the currency board would discipline the central bank with respect to reckless money supply, immediately restoring its credibility, quickly breaking the vicious circle of inflation and depreciation. It was technically feasible to implement, as international reserves far exceeded reserve money. Indonesian authorities strongly insisted at this idea, but the overall reception was negative. The IMF ultimately rejected it as too dangerous for Indonesia for the following reasons: First, if the currency board is even slightly less than fully credible (what seemed to be the case judging from unstable political regime and violent social tensions), it automatically leads to a contraction of the economy and excessively high interest rates. Second, an unsustainable currency board at the appreciated exchange rate (5500 IDR/USD, while on the day of the proposal the rate stood at 7287 – just down from 14000 and soon up to 10000) would prompt massive capital outflow and eventual system breakdown. Third, a currency board prevents the central bank from acting as a lender of last resort – BI would have to revoke its deposit

guarantees, which would trigger another panic (honoring these deposits was technically unfeasible).

Despite the efforts to implement tight monetary policy and prevailing high nominal interest rates, the actual stance of monetary policy has been loose with (ex post) real interest rates distinctly negative which probably reflected the expectations of a severe economic downturn.

With a change of the political regime in May 1998, the appointment of a new government and the EFF agreement with the IMF in July 1998, the authorities made an effort to strengthen the credibility of monetary policy. This time, base money was to be monitored closely. The monetary policy through base money restraint was directed toward maintaining price stability, while the exchange rate was left to market mechanisms. BI also made an effort to strengthen the credibility and transparency of policy by making periodic announcements of its targets. In achieving the quantitative target, BI resorted to open market interventions – on July 29, 1998 the central bank certificates auctions system was improved and changed: emphasis was shifted from interest rate to quantity target. To prevent a further expansion of liquidity, a high penalty on the discount window facility and commercial bank's negative balance with Bank Indonesia has been imposed, together with ceiling on deposit rates and interbank rate for banks guaranteed by the government. The expansion of liquidity ceased. The government took over from central bank most of the outstanding banks' liquidity support liabilities in exchange for promissory notes worth 144 trillion rupiah. To control the monetary expansion originating from increased government expenditures, BI conducted sterilization in the foreign exchange market, helping the same the rupiah to strengthen. After its July agreement with the IMF and the introduction of new auction system, BI tried to stick firmly to its policy. Base money

Figure 5-23. Indonesia: rice prices (IDR/kg)



Source: IMF

started to move within designated bands, monetary conditions stabilized and BI regained much control over the financial market. The interest rate decline started since September/October 1998 together with monetary stabilization and inflation decrease (CPI rise halted and then turned into slight deflation in 1999).

### 5.3.3. Fiscal Policy Response

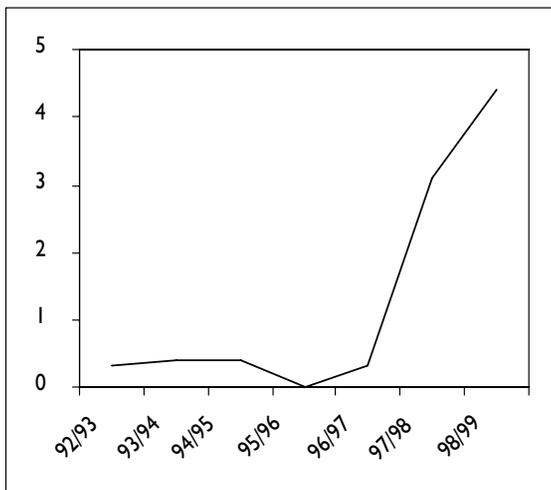
The initial November 1997 IMF plan of fiscal tightening was expected to restore confidence [26], demonstrate the authorities' eagerness for reforms and make room for possible bank restructuring costs. Already in September 1997, about 80 infrastructure projects (including 13 power plants and 36 toll roads) were suspended. According to the plan, wide ranging cuts in public spending and the postponement of about 35 bln USD in infrastructure projects were to be implemented in order to reduce the current account deficit and generally improve the soundness of the economy. The government budget surplus was planned to amount to 1% of GDP. In the sphere of structural reforms, the dismantling of state monopolies, trade liberalization and other similar measures were envisaged.

However, the authorities ignored their most important commitments which was revealed in the 1998/1999-budget proposal in January 1998. The constitutional validity of the IMF-supported stabilization program was also questioned on the grounds that it goes against "family values". The deteriorating situation forced the government to seek another

agreement with the IMF on January 15, 1998. The macro-economic assumption of the second program was revised downward: 0% GDP growth in 1998, 20% inflation and 5000 IDR/USD rate. The fiscal stance was eased to meet a 1% deficit. Calls for structural reforms were reiterated. Budgetary support, tax and credit privileges to the new airplane and national car projects (owed by Soeharto family) were to be canceled, cartels in cement, paper and plywood dissolved, domestic agriculture deregulated, import and distribution restrictions lifted, fuel subsidies gradually removed, fiscal transparency improved, autonomy for monetary policy granted. Nevertheless, the authorities were still very reluctant to fulfill these demands, as many of them were directly targeted at businesses from which government officials' relatives and friends profited.

Later in 1998, in accordance with the changing political and (worsening) economic situation, the program was revised and included not only accommodation of the shock, but also some additional fiscal stimulus. Current account (that actually quickly turned into surplus by itself) and confidence issues ceased to be main problem. The severity of the recession was not taken adequately into consideration while designing previous programs. In accordance with the agreement with the IMF the government raised expenditures that were associated with the social safety net as well as subsidies of oil-based fuel, electricity, medicine and food-stuff. Subsidies increased dramatically from 0.3% of GDP in 1996/97 to 3.1% of GDP in 1997/98 and 4.4% of GDP in 1998/99 budget (however less than planned 6.6%). The state budget was planned and estimated to run into deficit

[26] For example: if there is no budget deficit there is also no temptation to monetize it in a crisis period; on the other hand, increase in public saving contributes to current account improvement (in 1997 current account deficit has been regarded as a problem).

**Figure 5-24. Indonesia: government subsidies (%GDP)**

Source: IMF

of about 8.5% of GDP in 1998/99. In the end, however, the government failed to provide a sufficient boost to the economy, the realized deficit reached only 2.2% due to lower government expenditures attributed to exchange rate appreciation and technical constraints in general [27]. As for deficit financing, foreign borrowing financed 99% of it, while remaining 1% was financed domestically.

### 5.3.4. Banking System and Debt Restructuring

The authorities have begun to restructure the banking system through a mixture of bank closures, mergers and takeovers. After the closure of 16 banks in November 1997 and the following bank runs, BI guaranteed eventually in January 1998 all deposits at domestic banks. At the same time the establishment of Indonesia Bank Restructuring Agency (IBRA) was announced. The task of IBRA was to assume control over troubled private banks, review them for liquidation or recapitalization and manage non-performing loans. There were initial problems with the operation of that body, as bank managers failed to change their behavior in accordance with IBRA's recommendation. By April 1998, it became apparent that forceful ("hard") intervention [28] was necessary. Efforts were made to recover the liquidity credit extended to banks by the central bank, so IBRA focused and finally took over (effectively nationalized) seven private banks responsible for 75% of all liquidity support and accounting for 16% of total banking system liabilities.

Another seven very small and completely insolvent banks were closed. The operations of IBRA were subject to rising uncertainty among a public unaccustomed to the implications of bank takeovers. Several "IBRA banks" were being run on for some time. In September and December 1998, the authorities announced a comprehensive plan of restructuring of the banking system. Banks were categorized depending on their capital adequacy ratios (CAR). Banks with CAR above 4% would be allowed to continue operation. Banks with CAR below -25% were given one month to recapitalize, failing which they would be merged or closed. The rest of the banks were to submit reliable business plan, which would be assessed by independent experts. Banks were required to meet capital adequacy ratio of 4%, 8% and 10% by the end of 1998, 1999 and 2000 respectively. These requirements were strictly executed and during the financial year 1998/99 the government closed 48 banks. State banks were jointly recapitalized and four of them merged into new state bank (Bank Mandiri) which became the largest bank in the system with about 30% of all deposits. After mergers and closings, the number of banks dropped from 238 to 157. As a result there was a dramatic change in the ownership structure of the banking system – the government's stake rose from 40% to 70%. Despite these efforts, the state of the banking system, as of March 2000, still leaves much to be desired with non-performing loans ratio of 32%.

The recapitalization program has been financed by the issuance of bonds worth over 50% of GDP [29]. The cost of the bailout will be a substantial burden for public finances – the public debt amounts already to over 90% of GDP. IBRA liquidity credits were to be converted into equity or subordinate debt. Some of the capital is planned to be regained by consequent privatization. Restrictions on foreign investors to own banks in Indonesia have been accordingly removed. However, the prospects of asset recovery from bankrupt and restructured banks are very dim – the market estimate of the IBRA portfolio is 20% of its book value.

The second urgent problem was corporate and inter-bank external debt restructuring. Foreign banks were very reluctant to rollover the debt of falling companies. On January 27 1998, the government had to announce a corporate debt payment moratorium. Talks with a steering committee of private bank creditors concerning the restructuring of interbank and corporate debt began in February 1998 and were concluded on June 4, 1998, in Frankfurt. Agreement on interbank debt involved an offer to exchange the debt maturing by end-March 1999 with the new loans. They

[27] Similarly the 1999/2000 fiscal deficit was only 1.5% of GDP and fail to reach 5% planned in the budget.

[28] Suspension of shareholders rights, assumption of ownership by IBRA and management replacement.

[29] This cost is significantly higher than the costs other crisis countries had to incur. The cost of the banking sector restructuring in percent of GDP were: 17% in Korea (1997-), 29% in Thailand (1997-), 29% in Chile (1981-87), 19% in Mexico (1994-99).

were backed by a full dollar guarantee of Bank Indonesia and of maturities from one year (not more than 15% of the new loans) to four years (at least 10% of the new loans) at an interest around 300 basis points above Libor. Foreign banks committed to maintain trade financing as far as possible. To eliminate a crunch in international trade payments and kick-start import/export activities, Bank Indonesia settled the trade arrears of commercial banks amounting to more than 1 bln USD. Unlike with the banking system, the Indonesian government was reluctant to extend direct support to the private sector, but preferred instead to provide a government-supported umbrella for restructuring private sector debt with some tax concessions and preferential financing rates, but without any formal guarantees [30].

This was reflected in the scheme of corporate debt restructuring agreed in Frankfurt. It provided a framework for voluntary restructuring of external debt through direct negotiations between debtors and creditors with a support and mediation of a new governmental body called the Indonesian Debt Restructuring Agency (INDRA) established in August 1998. Its task was to provide exchange rate guarantees under condition that the agreement met certain conditions (a minimum eight years maturity and three years grace period). INDRA would not guarantee payment, but only the exchange rate and would supply foreign exchange using the best 20-day average rate before June 1999, with a reset option if the rupiah appreciate more. The INDRA scheme was complemented by so called "Jakarta Initiative", i.e. the set of guidelines for debt restructuring workout based on a London approach [31]. In the meantime the new, tough bankruptcy law took effect in August 1998, and the reluctant companies had an additional incentive to join INDRA-scheme. The market reactions and the experience with implementation are not too satisfactory. By February 1999, some 120 companies with total debt of 18 bln USD were registered to Jakarta Initiative. By July 2000, only 5 bln USD has been rescheduled, i.e. not much more than 1% of total eligible debt. Numerous institutional and political obstacles and the failure of the legal system to pose a credible threat to the debtors obstruct the process. The corporate debt resolving continues, but its slow pace undermines the economic recovery and market confidence in Indonesia. In December 2000, the IMF warned Indonesia of the possible consequences and urged the authorities to deal with the problem.

The stock market index hit an all-time low in September 1998 but as soon as monetary and political conditions stabilized the market rebounded quickly as foreign investors took advantage of unbelievably cheap equity prices [32].

The bourse reached pre-crisis levels in early 2000 but soon after that, in the first month of 2000, lost 40% due to a prolonged crisis and higher US interest rates. The property market remains weak with a 35% vacancy rate in office real estate.

### 5.3.5. Prospects for the Future

In early 1999, new electoral laws were adopted and in June the country's first free and honest elections were held. In contrast with the past, there was more than one candidate for presidential post, which finally was won by Abdurrahman Wahid, an open-minded and relatively liberal leader of the major Muslim organization. GDP grew a slight 0.1% in 1999 and is estimated to grow between 3% and 4% in 2000 and 4–5% in 2001. The rupiah gradually depreciated from 6900 IDR in October 1999, right after the new elections, to around 9500–10000 IDR/USD in December 2000. Indonesia is still heavily dependent on international support. Failure to meet the IMF's and foreign creditors' expectations can still have serious consequences but pressure from outside strengthens the pro-reform faction in the government. So, ironically, the authorities (can) take advantage of the crisis to push through some important reforms.

## 5.4. Conclusions

Indonesia is the most hard hit country among the East Asian crisis' victims. GDP fell 14% in 1998 and only after two years does it show any sign of recovery – it is going to take a long time until GDP growth returns to pre-crisis levels of 7%. As a result of the crisis, the political regime collapsed, social and ethnic tensions erupted, the country's integrity has been threatened and a poverty problem emerged.

This paper tried to answer why this was the case. The answer is that Indonesia had probably the worst economic fundamentals of all the East Asian countries. The economy was ridden by corruption and monopolized. The weak financial system engaged itself in reckless credit expansion, dangerously risky investments or even quasi-criminal activities. Overoptimistic corporate sector accustomed to the abundance of capital ceased completely to insure against economic risk. Short-term external debt mounted, with a presumption that it would never have to be paid back and

[30] This was similar to Mexican corporate debt restructuring framework called "Ficorca".

[31] The London approach to debt resolution is a voluntary, non-binding framework in which creditors agree to keep credit facilities in place, seek out-of-court solution and work together in good will.

[32] In USD terms Indonesian shares were 12 times cheaper (!) in September 1998 than in June 1997 – this is what people call "the fire sale FDI".

that the exchange rate would be pegged forever. The quality and efficiency of investment decreased.

The case of Indonesia speaks in favor of a view that there is a relationship between fundamentals and (the severity of) a crisis. The course of Indonesia's development was definitely unsustainable – at some point such a policy would have to fail, so investors withdrew before the moment came, as in the first generation theoretical crisis models.

On the other hand, had the financial panic not erupted, first in some other country (Thailand), Indonesia could further develop uninterruptedly – would need some economic reform but, still, there was nothing about the economy that called for immediate collapse. What eventually brought Indonesia down was self-fulfilling panic among international creditors that drove them to cancel loans just because other investors were doing the same. Such a situation is well described by the second-generation-self-fulfilling-crisis theoretical models.

The case of Indonesia (and more generally of the Asian financial crises) is neither unique, nor can it be fully explained by any of the two main theoretical views. Rather it can be said that for some range of fundamentals, i.e. when the state of the economy worsens but not up to the point when the collapse is inevitable – the country becomes vulnerable to a crisis caused by self-fulfilling panic.

The Asian crisis calls for the reassessment of the notion of a "fundamental". It cannot be limited to easily measurable, "classic" macroeconomic variables such as fiscal deficit, monetary expansion, inadequate reserves or "political" factors like unemployment or recession. This notion should be broadened by such vogue ideas as 'credibility', "moral hazard", or strictly microeconomic factors, i.e. structure of the corporate sector, strength of a financial system, etc. In the case of Indonesia, these fundamentals were in a very bad state.

## Appendix I: The chronology of the Indonesian crisis

1997

May: Thai currency comes under speculative pressure.

July: Thai, Malaysian, Philippine, and Indonesian currencies all depreciate.

August 14: Indonesia abolishes its system of a managed exchange rate. The rupiah starts to depreciate

September 16: 15 government "mega-projects" are postponed.

October 8: Indonesia says it will ask the IMF for financial assistance.

October 31: Indonesia's IMF package is unveiled. It provides for more than 23 USD bln in aid.

November 1: Sixteen banks are closed as first step in IMF package, what causes panic and bank runs among depositors.

November 5: IMF approves a US\$10 billion loan for Indonesia as part of the massive international package.

December 5: Soeharto takes 10 days rest after a 12-day world tour and misses ASEAN summit.

December 9-12: Finance Minister fails to negotiate the debt rollover in Washington.

1998

January 6: Indonesia unveils an expansionary 1998/99 budget, contrary to IMF demands of a budget surplus. The rupiah loses half its value over a five-day period.

January 9: Ratings agency Standard & Poor downgrades Indonesia's currency to "junk bond" status.

mid-January: More or less direct calls start to be made for a change of the regime.

January 15: Soeharto signs a new IMF agreements.

January till mid-February: Anti-Chinese food riots take place in at least a dozen places throughout Indonesia.

mid-January: All but 22 of the 286 companies listed on the Jakarta stock exchange are technically bankrupt. Property companies are the worst.

January 27: Government announces a moratorium on repaying debts and interest, and promises to guarantee all deposits of commercial banks.

February: Soeharto proposal of a currency board is announced, criticized and finally turned down.

February : Talks with a steering committee of private bank creditors concerning the restructuring of interbank and corporate debt begin

March 10: Soeharto is re-elected to a seventh five-year term with Habibie as vice president.

May 4: Fuel prices are increased by up to 71 percent. Three days of riots follow.

May 9: Soeharto leaves for a week-long visit to Egypt.

May 12: The army troops shoot four students at Jakarta protest.

May 13-14: Rioting spreads throughout Jakarta. Estimated 1,200 people die in two days. When Soeharto returns from Egypt, he faces a flood of calls to resign.

May 21: Soeharto resigns and hands power to Habibie.

June 4: Agreement concerning debt restructuring is reached in Frankfurt.

June 17: The rupiah again hits 17,000 against the dollar.

July 29: The central bank certificates auctions system was improved and changed in attempt to regain control over monetary aggregates.

September 24: Paris Club reschedules \$4.2 billion of sovereign debt. Annual inflation rises to 82.4 percent in September.

September 29: Indonesia strengthens bank recapitalization scheme.

October: Monetary stability gradually returns, inflationary pressure eases and the rupiah stabilizes around 9000 IDR/USD.

November 10: Special session of the Parliament begins to discuss election and political reforms.

1999

March 13: Government closes 38 insolvent banks.

June 7: Indonesia holds first democratic election since 1955.

August 6: Finance Minister admits there were "irregularities" in loan-recovery process. The scandal prompts IMF and World Bank to threaten loan suspension.

October 1: Indonesia announces seventh month of deflation, with annual inflation of 1.25 percent.

October 20: Wahid has been elected President.

[33] This chronology was much to "CNN Asia Now", October 1999 and "Inside Indonesia", report No. 54, April-June.

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## Part VI.

# The South Korean Currency Crisis, 1997–1998 by Monika Błaszczewicz

### 6.1. Was Korea Different?

#### 6.1.1. Introduction

Financial crises' episodes of the 1990's differ from those of the 1980's in that recently they have occurred in countries on their way to social and economic development. The initial success in implementing reforms, and the evident prosperity for the future, encouraged foreign investors to diversify their portfolios towards emerging markets. Additional capital inflows allows financing economic growth and speeds up the process of integration with the global market. On the other hand, the same capital can cause troubles when it becomes an abrupt and sharp outflow. Why and when does it happen?

The group of countries that came under speculative attack in 1997 in Southeast Asia can be roughly summarized within the above scenario. Yet the roots underlying the crisis in each country within the same group should be treated as country-specific. Of course, there were some common features among them, but in order to identify main characteristics for an individual economy, a separate analysis is required. This is even truer for South Korea (hereafter referred to as Korea) where strong macroeconomic performance until late 1997 did not let most analysts foresee the crisis. Even the eruption of crises in countries from the neighboring region, marked by the July Thai bath devaluation, did not downgrade the assessment given by the international rating agencies to Korea.

This paper aims to explore the major factors lying behind the Korean financial crisis. It further looks at the sources of the crisis that took its roots in highly leveraged companies with a weak balance sheet, and a poor functioning banking system. It shows that while macroeconomic imbalances played a minor role, the close relationship among banks, corporations and the government cre-

ated problems, which resulted in numbers of bankruptcies and in the end led to the sharp and unexpected economic downturn.

#### 6.1.2. Background to the Crisis

The currency crisis, which erupted in Korea in the end of 1997 hardly fits the first or second-generation conceptual frameworks, where irresponsible government policies and investors' panic play a crucial role. The sudden collapse also cannot be solely attributed to the possible contagion effect across the Asian countries facing similar problems at that time. The 1997 Korean experience is an example, which confirms that financial crises occur not only when macroeconomic but also microeconomic indicators identify vulnerabilities. Although indicators like GDP growth, inflation or fiscal balances are important measures of economic soundness, healthy financial and corporate sectors are an essential prerequisite to a successful financial system deregulation as well as liberalization of capital account.

In an oversimplification of the classification, the economic fundamentals can be divided into two broad categories: macro and micro-economic. Looking solely at the former, many failed to predict the 1997 Korean crisis. This is because at the onset of the crisis, macroeconomic fundamentals in Korea remained relatively sound and did not show many signs of vulnerability. Real GDP growth rate oscillated around 8 percent between 1994 and 1996. At the same time, inflation measured by CPI was under control and averaged at 5.1 percent per annum. The price stabilization led to a gradual decline in nominal interest rates. The three-year corporate bond yields, declined from 16.2 percent in 1992 to 11.9 percent in 1996. The consolidated central government position was balanced or even in surplus and public debt was less than 10 percent of GDP in the end of 1996 [1].

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[1] This number, however, can be misleading due to substantial quasi-fiscal burden in Korea arising from the governmental support to privately own banks. In this case large public expenditures did not appear on the general government balance sheet. Additionally, such a practice posed a moral hazard problem.

Before financial liberalization, which started in the early 1990's, Korea was targeting monetary aggregates like M2 or MCT [2]. This helped the authorities to maintain financial stability since all other instruments were set to achieve the growth rates of money, inflation and interest as well as exchange rate. Despite the progress made towards the financial sector opening in the 1990's, this policy was continued as the government was convinced about its advantages. Two years before the crisis, the annual growth rate of M2 oscillated around 15 and 16 percent. Although this was 3 percent lower than the early 1990's average, domestic credit rose at the very rapid pace during 1994–97 achieving 18.5, 14.1 and 20.1 percent, respectively. Additionally, the broad money aggregate expressed in ratio to foreign reserves was around 6, which was high even in comparison to other crisis economies. In Malaysia this liquidity indicator was equal 4 and in Thailand 4.9 at that time.

Nevertheless, other macro-indicators were acceptable. Unemployment rate did not exceed 2.3 percent

throughout three pre-crisis years, 1994–1996. Until mid-1995 investment and saving rates were soaring, averaging approximately at 37 and 35 percent of GDP, respectively. The only exception was the current account deficit, which deteriorated to 4.5 percent of GDP at the end of 1996 and was mostly covered by short-term portfolio investments.

There were two factors responsible for the performance of this indicator. The first related to strong capital inflows during the whole year (especially in the second quarter); the second was a terms of trade shock, representing a 12 percent drop from the previous year (according to many empirical research shocks to this variable increase the probability of financial crisis). In particular, the unit export price of semi-conductors during 1996 fell by more than 70 percent in the semi-conductor manufacturing industry. The magnitude of the current account deficit even though large was not tremendous. Many countries suffering from the episodes of financial crises

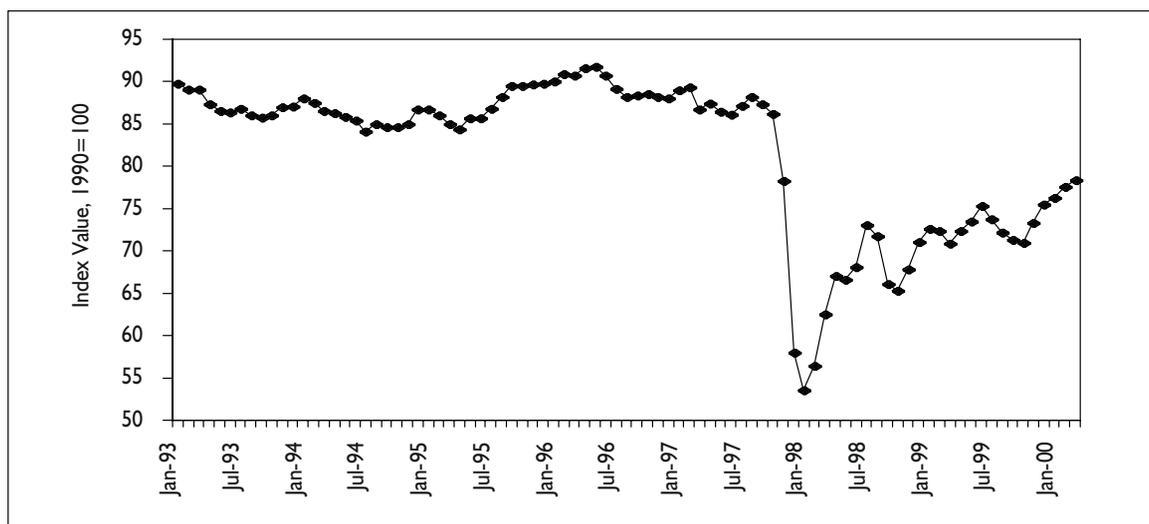
**Table 6-I. Macroeconomics fundamentals**

	1994	1995	1996	1997	1998
Real GDP (percent change)	8.3	8.9	6.8	5.0	-5.8
Inflation (CPI)	6.2	4.5	4.9	4.5	7.5
Fiscal balance*	0.1	0.3	0.0	-1.7	-4.2
Gross national savings*	35.5	35.4	33.5	32.5	33.4
Gross domestic investments*	36.5	37.2	37.9	34.2	20.9
Yield on 3-year corporate bonds	12.9	13.8	11.9	13.4	15.1
Current Account balance*	-1.0	-1.7	-4.5	-1.7	10.9

\*Percent of GDP

Source: IMF, IFS; own calculation

**Figure 6-I. Real effective exchange rate**



Source: Moody's database

[2] MCT is composed of M2, certificates of deposits and trust accounts.

experience more severe imbalances. The same is true for the behavior of the won/ dollar exchange rate [3].

Considering tight Korean linkages with Japan (widely fluctuating yen/dollar exchange rate was a key determinant of the Korean competitiveness) and appreciation of US dollar vis-a-vis Japanese yen at the beginning of 1995, the won/ dollar exchange rate would be a poor approximation of the total overvaluation of won (annual percentage changes in 1994 and 1995 were 7.5 and 6.1, respectively; in 1996 the real won/ dollar exchange rate was actually depreciating, comparing with its 1995 value). Thus, the real effective exchange rate would be a more adequate way of measurement. But even then, the overall magnitude of appreciation was not excessively unsustainable. From mid-1995, the real effective exchange rate was appreciating comparing with its 1990 value; from May 1996 on it was steadily depreciating.

### 6.1.3. Signs of Vulnerability

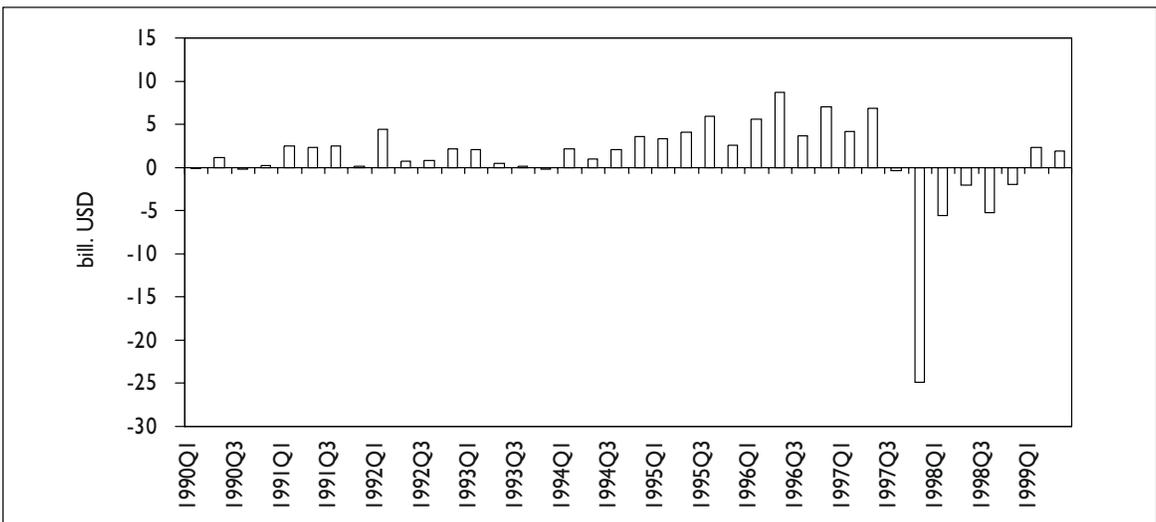
Korea's rapid growth during the past decades and its ability to maintain prudent macroeconomic fundamentals masked important structural weaknesses. The successful industrialization process, which transformed the country from one of the poorest nations of the world into one of the most promising, was achieved mainly at the expense

of an excessively indebted corporate sector. The 1970's and 1980's strategy, when Korean companies were small and were taking advantage of economies of scale, proved to be wrong in the 1990's. This was mainly due to the overall international environmental change towards tighter linkages among countries that increased an internal and external competition. The external pressure to deregulate and open the financial system in Korea was considerable.

The fact that borrowing from abroad was half the price of borrowing domestically (the three-month interest rate on corporate bonds in Korea was as high as 11–12 percent, whereas in the United States it was averaging around 5.5 percent in the second half of the 1990's) compounded the foreign exchange exposure from the domestic side. Between 1990 and 1996, net capital inflows were equivalent to \$69 billion of which \$51.8 billion took the form of portfolio investments. Net foreign direct investments were actually negative and equal to \$7 billion. Yet, a continuing inflow of short-term foreign capital kept the overall balance of payment in surplus helping to fuel investments and growth.

The official foreign reserves accumulated. Nevertheless, in terms of monthly import (in 1995 and 1996 reserves were enough to cover just three-month imports' obligations) and considering the growing stock of short-term external debt, they were not sufficient to protect

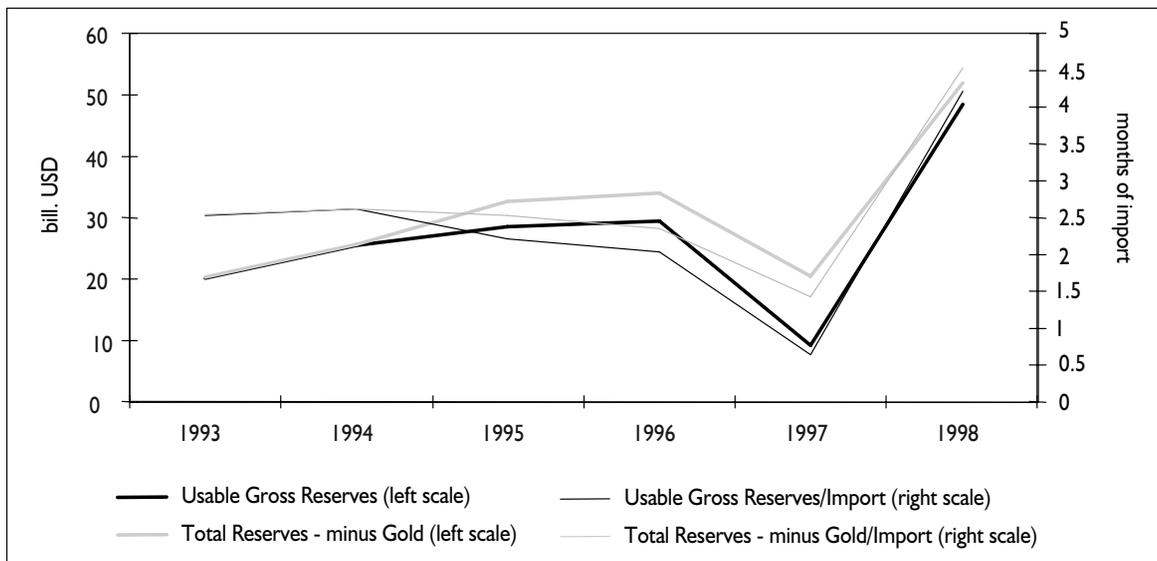
Figure 6-2. Net capital inflow



Source: IMF IFS, own calculation

[3] Between 1980 and 1989 Korea followed a policy of the 'Managed Basket Peg' to adjust current account. Due to the large investment boom in 1990–91 which shifted current account from surplus into deficit, the government decided to adopt the policy called "Market Average Rate System". Within this policy the exchange rate was allowed to fluctuate within a band up to 2.25 percent a day. However, because of still existing capital account restrictions, the system was more similar to fixed but adjustable peg (see OECD, 1998; Black, 1996).

Figure 6-3. Reserves



Source: Bank of Korea

against the liquidity problems. These numbers were even smaller for gross usable foreign reserves, which are calculated as the difference between official stocks of foreign reserves (minus gold) less overseas branches' deposits of domestic financial institutions. In practice they are hardly available, when the need arises. In Korea the ratio of usable reserves to short-term debt in 1996 and 1997 was equivalent to 0.3 and 0.1, respectively. Due to the above there is no doubt, the Korean crisis had its roots in near depletion of foreign currency reserves.

Rushing for additional funds from Korean firms and financial institutions failed to put priority on cash management and other forms of provision against the risk. At the same time, banks and other financial institutions failed to detect the full picture of individual enterprises before offering loans to these companies. Implementation of market principles in a socio-economic environment characterized by over-regulation, concentration of resources around business groups and implicit government intervention in the banking system resulted in the high exposure of Korea to systemic risk. In the end, it eroded the asset side of financial intermediaries when the highly leveraged firms became unable to meet their obligations.

A key problem associated with the accelerating stock of external liabilities in Korea was the high proportion of short-term debt in total borrowing. Together with low productivity of investments (the discussion on the investments' efficiency is carried out in the next section) and the low stock of foreign reserves it affected the sustainability of current account deficit, since it mainly depends whether the level of external liabilities is consistent with the country's debt servicing capacity.

## 6.2. The Role of Cheabols in the Future Development of the Crisis

The role of the state in Asia's development in the 1970's and 1980's was substantial. It is often believed that it was exactly the government's intervention and planification that made the "miracle" possible. However, as the 1997 meltdown showed, this common view is questionable.

For many years, investments in Korea were concentrated around cheabols, the multi-company business groups operating in a range of markets under common supervision and financial control. Although, each company within a group was legally independent, in reality cheabols were fostered by government policies. It was the Presidential Declaration on Heavy and Chemical Industrialization Policy of January 1973, which encouraged large companies to invest in strategic industries such as semiconductors, shipbuilding, steel etc. [IMF, 1999; OECD, 1998]. The government support, apart from the implicit risk share for preferential industries, was massive. For example, the state-owned banks were pressured to allocate more than half of their loan portfolios to particular sectors. By the same token, strategic industries were provided loans that carried out low interest rates [Nam et al., 1999]. Even after the financial sector's liberalization and privatization in the 1980's, the governmental support for the large firms, affiliates of cheabos, did not vanish.

The large economic concentration around business groups that were subject to special regulations in Korea is clearly evident in terms of capital stock invested and the

**Table 6-2. Share of cheabols in mining and manufacturing**

	1984-89	1991	1992	1993	1994
Top five					
Shipments	22.5	23,4	23,8	23,0	24,6
Employment	10.02	10,8	10,8	10,4	11,1
Top thirty					
Shipments	38	38,8	39,7	38,1	39,6
Employment	17.95	17,7	17,5	16,6	17,7

Source: Yoo and Lim (1997) and Fair Trade Commission cited in 1998 OECD Survey on Korea

number of people employed. According to the OECD 1998 Survey on Korea, the thirty largest business groups subject to special regulations accounted for about two-fifths of the capital stock in mining and manufacturing sectors and almost a fifth of employment in 1996. In terms of shipments, their 1994 market share was 39.6 percent (data for 1995 and 1996 was not available). In 1995 the top thirty cheabols' value added accounted for 16 percent of GNP and 41 percent of value added in the manufacturing sector [Borenstein and Lee, 1999].

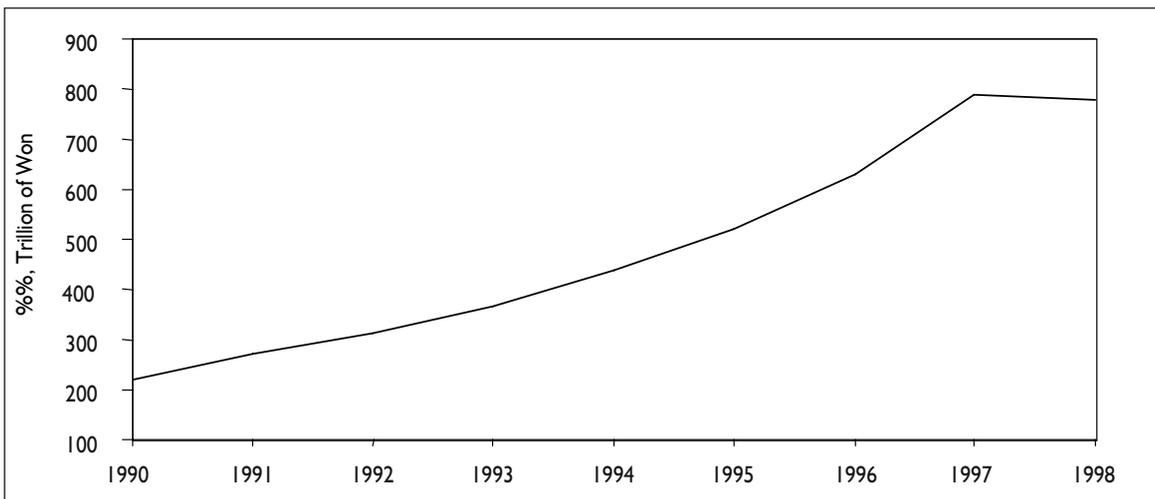
Capital concentration around business groups was definitely important, but not the only problem of weak corporate governance in Korea. The other relates to the corporate concentration of ownership around founding family, relatives and affiliate firms that created corruption. Most of the time, cross-guaranteed debt financing led to the chain reaction, resulting in a collapse of the whole business group. As the OECD report states, in 1996 there were three cheabols with a share of founding family higher than 20 percent. In 1997 all three were insolvent. Even considering the declining trend in internal ownership (between 1983 and 1997 it fell from 57 to 43 percent) due to capital market development, only about a quarter

of the 669 firms affiliated with the top thirty cheabols were listed on the stock market in 1995.

Another feature practiced by cheabols was so called "empire-building", the term that relates to diversification of business groups into the broad range of industries. From 1970 to 1996 the number of companies affiliated with thirty largest cheabols' increased by 18 from average 4 to 22 companies investing in almost 19 industries [OECD, 1998]. Diversification of business into a wide range of different economic activities itself is not a negative practice since it protects against the possible loss at one market by gaining profits at another. Nevertheless, the fact still remains that in Korea, companies felt protected not only by the diversification of their business portfolio, but also because of the governmental intervention ensuring takeover rather than bankruptcy. Feeling free of risk, cheabols were engaging themselves in investments based heavily on debt financing.

### 6.2.1. Debt Financing

The total corporate debt measured as the ratio between company's liabilities and its capital employed

**Figure 6-4. Total corporate debt**

Source: Bank of Korea

**Table 6-3. Share of loans to the 30 largest chaebols in total loans by financial institutions, percent**

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Banks*	28.6	26.3	24.2	20.7	19.0	18.9	17.9	15.6	15.0	13.9
NBFIs	-	-	32.4	36.6	37.8	38.5	40.5	-	-	-

\*Deposit money banks only.

Source: The Bank Supervisory Board, The Korea Investors Service, Inc. Quoted from Nam, et al. (1999)

**Table 6-4. Top five largest chaebols (unit: trillion won, %)**

	Debt/ Equity ratio		
	1996*	1997	1998
1. Hyundai	440	572.3	449.3
2. Samsung	279	365.5	275.7
3. LG	345	507.8	341.0
4. Daewoo	391	473.6	526.5
5. SK	352	466.2	354.9

\*Data for 1996 is from April, otherwise end of the year.

Source: Dongchul Cho and Kiseok Hong (1999), Ministry of Finance and Economy

was increasing steadily throughout the 1990's, achieving its peak in 1997.

There were several remarkable features of this debt, which explicitly contributed to the collapse of many corporations and implicitly, through the growing number of non-performing loans, to the bankruptcy of banks and non-banking financial institutions (NBFIs).

First, the increasing trend towards indirect financing of the corporate sector in Korea mirrored the relatively undeveloped bond and equity markets (between the first half of 1996 and 1997 the exposure of banks and NBFIs to chaebols almost doubled while direct financing declined by 20 percent (OECD, 1998)). In 1996, in terms of capitalization, the equity market in Korea was equal to 25.4 percent of GDP. This fell far below that of the developed world (108.7, 67.6, 47.8 for the United States, Japan and G-10 Europe, respectively) and represented a sharp fall from 1990, when the equity market capitalization was equal to 43.6 percent (BIS, 1997 Annual Report). Highly leveraged chaebols became prone to shocks that cause a fall in cash flow (i.e. a terms of trade drop) or an increase in payment obligations (due to an interest rate increase). The situation became worse at the beginning of 1997 when an almost 50 percent slide of market equity value was observed compared to its 1995 high. This affected not only chaebols, but also banks as chaebols were purchasing equity for loans granted. The similar trend was observed in terms of the market capitalization of shares of domestic companies (main and parallel markets, excluding investment funds). In 1994, the capitalization was equivalent to around 118 percent of GDP. However, by the end of 1997 it dropped together with the stock market decline to only 23 percent of GDP.

Secondly, the corporate sector debt in Korea was, to a high degree, concentrated in the thirty largest chaebols. What is more, as the Table 6-3 shows, the exposure of the thirty largest chaebols to non-bank financial institutions in Korea was increasing.

Between 1988 and 1992 the share of banks in corporate debt financing dropped by 6.3 percent, but that of NBFIs increased by 8.1 percent. Taking into consideration the minimum supervision imposed on non-banking financial intermediaries, there was no doubt they were eager to make loans to the business sector and individuals.

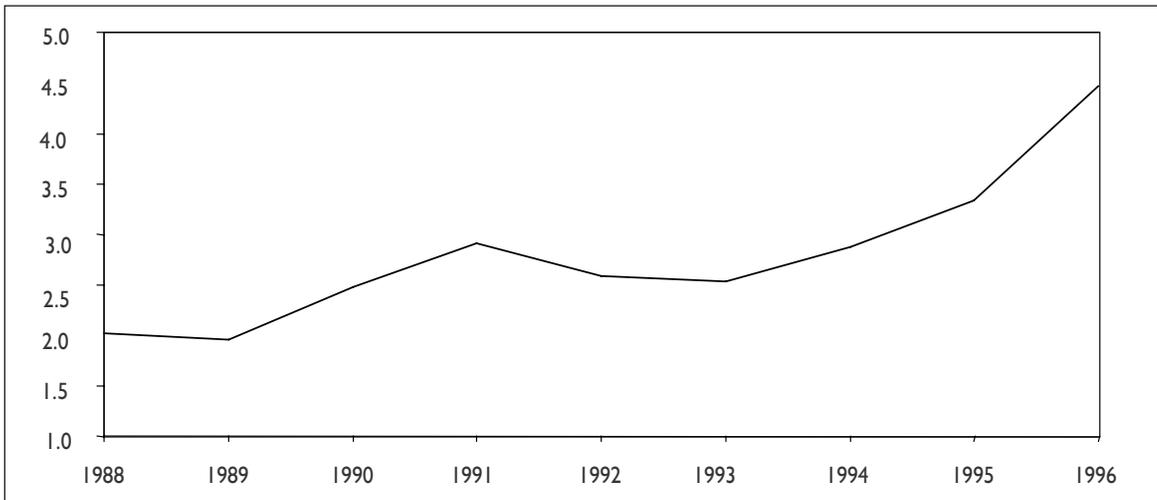
Overall, the high dependence of the Korean corporate sector on debt as opposed to equity finance was clearly evident and extremely high even by international standards. Throughout all the 1980's and 1990's the debt/equity ratio averaged from around 400 percent to 500 percent plus [4]. On the other hand, the debt/equity ratio for the United States oscillated around 50–100 percent, for the United Kingdom slightly less at that time. Even Japan, which expanded beyond 350 percent in 1980, in 1994 was down to around 150 percent. Enormous debt/equity imbalances in Korea had their roots in the system of debt guarantees within chaebols, lax capitalization rules and low effective tax rates on interest income implemented to pursue the rapid growth of the economy [IMF, 1999].

## 6.2.2. Investments

Although it is true that investment rates in Korea were high, the central question remains if they were profitable

[4] The debt/equity ratios for the top thirty chaebols can be found in Appendix I of this paper.

Figure 6-5. ICOR\*



\* The calculation was done as a five-year moving average to avoid cyclical effects.  
Source: IMF IFS

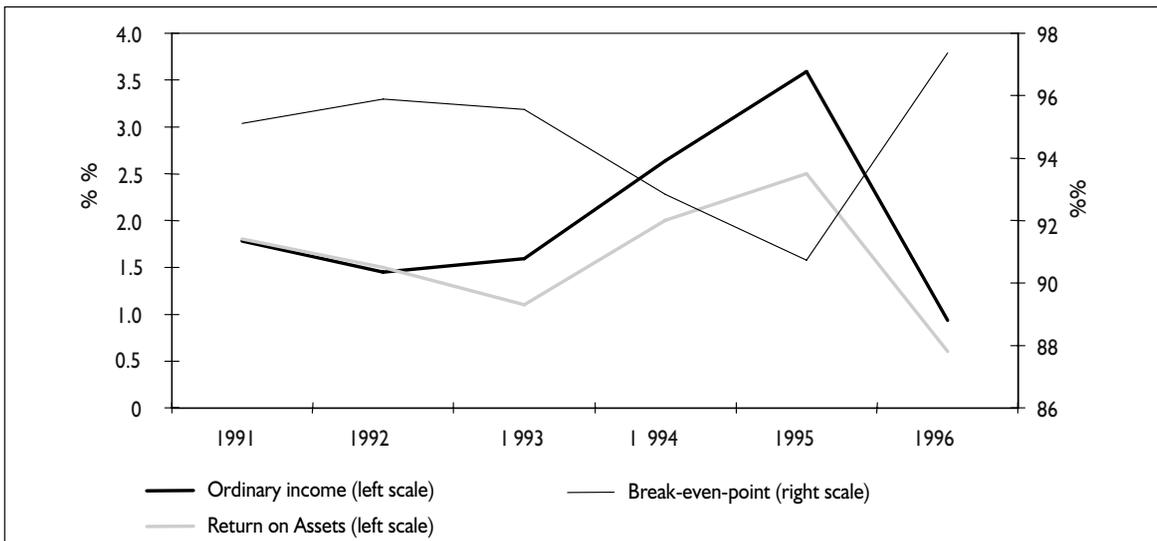
enough to contract such a high debt? By comparing the cumulative investments with changes in GDP, it is almost certain that some of them were misdirected [5].

Since the late eighties, the value of the capital-output ratio (ICOR) was increasing, indicating the falling quality of fixed capital formation. A slight drop was observed between 1991 and 1993. But after then, the ICOR index was systematically growing. Considering the slow down in GDP growth rates

since 1995, there is no doubt there was not enough capacity in the corporate sector in Korea to cope with such high rates of credit. The overheating pressures amplified.

Apart from ICOR, other indices like the rate of return on assets, the growth rate of ordinary income as well as the break-even point, showed the low productivity of investment and the growing vulnerability of the Korean corporate sector [6]. The last variable indicates the level

Figure 6-6. Profitability of the corporate sector



Source: Bank of Korea

[5] The incremental capital-output ratio (ICOR) is subject to possible faults as its value can be influenced by factors not solely dependent on the efficiency of invested capital. Other factors include structural weaknesses and capital deepening.

[6] Manufacturing ordinary income is calculated as total sales less cost of sales plus selling and general administrative expenses, less net non-operating cost.

of cost of production just covered by income (the higher the value of the break-even points, the higher the cost).

As the chart shows, from 1995 onwards, all three indicators – the break-even point, ordinary income and return on assets – demonstrated the falling profitability of the corporate sector.

The high leverage of the corporate sector and its inadequate governance was an important, if not the major, factor of Korea's ensuing collapse. The question to be answered is why it was sustainable in the 1980's but turned into a collapse in the second half of the 1990's? The simplest answer lies probably in the unfavorable behavior of the terms of trade, which significantly constrained the cash flow of chaebols, the major exporters in Korea. But there were other factors like the appreciation of the US dollar vis-a-vis the Japanese yen at the beginning of 1995 that weakened the competitive position of firms. Furthermore, the collapse of Hanbo Steel Co. in January 1997, the first big bankruptcy in decades, undermined investors' confidence that Korean firms were 'too big to fail'. This was followed by Moody's decision to lower the long-term rating on three Korean banks, which had a significant exposure to Hanbo [Park, et. al, 1998]. The common belief in the government willingness to bail out failing companies disappeared together with the declining stock of foreign reserves.

Low-productivity of investments was mirrored in the burden of non-performing loans (NPLs) in the banking system. In 1995 NPLs (included loans classified as sub-standard and doubtful) for commercial banks were equal to 5.1 percent of total loans raised. In 1997 it was already 6 percent, according to the Financial Supervisory Service (cited by J. Fleming). Soon after the eruption of the crisis the problem of NPLs in total loans magnified. In 1998 the percentage number increased to 7.4. Although, these figures are high, they maybe even higher since regular reports on NPLs have been available only recently.

### 6.3. Korean Financial System and its Liberalization

Before the liberalization of the Korean financial sector the early 1980's, the government had intervened heavily to pursue its industrial objectives. As the reforms progressed, several commercial banks and non-bank financial institutions were added to the system. Nevertheless, the attempts to liberalize were only partially successful, still leaving many regulations in force (i.e. low

interest rate ceiling to increase profits and retain earnings for selected firms, commercial banks' lending to preferential sectors) [7].

The 1988 plan to deregulate the majority of bank and non-bank's lending rates as well as interest rates on money market instruments was mostly reversed, because of pressures arising from earlier beneficiaries of the preferential access to low interest rates credit. On the other hand, the second attempt to implement the plan in 1992 was suppressed by the stock market slump [IMF, 1999].

The next phase of financial system reform took place in 1993 when the first democratically elected civilian government came to power. The new government under the President Kim Young Sam was highly committed to financial liberalization. There were two reasons for speeding up the process. One of them was the perspective of joining the OECD, the other was the growing ability of private and already credible firms to borrow funds from abroad. However, most capital flows attracted by firms through the stock market were not free from explicit or implicit quantitative controls, with the exception of trade related short-term financing [Dooley et al. 1999]. During that time, large structural changes led to further rapid growth of non-banking financial institutions. As the Bank of Korea states, the market share of non-banking financial institutions in terms of Korean won deposits between 1980 and 1998 increased from about 29 to 72 percent. The numbers for banking institutions (commercial and specialized banks) were 71 and 28 percent, respectively [OECD, 1998]. The trend in loans and discounts was similar, increasing for NBFIs and falling for banks. Between 1996 and 1997, the share of funds raised by the business sector from non-banks to the total funds raised increased by 10 percentage points, from 13.9 to 23.9 percent. At the same time borrowing from banks dropped from 14 to 12,9 percent (Bank of Korea).

#### 6.3.1. Non-banking Financial Institutions

In Korea, non-banking financial institutions can be roughly classified into five categories according to their business activities. These are: development, savings, investment, insurance, and other institutions (Bank of Korea). The role they played in causing future deterioration in the financial sector balance sheet was significant since they were allowed greater freedom in their management of assets and liabilities. What is more, they were able to charge higher interest rates on their loans as well as apply higher interest rates on their deposits. Regarding

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[7] Commercial banks in Korea were nationalized in the 1960's and since then the government was influencing the sectoral allocation of credit with smaller or greater intensity [IMF, 1999].

Table 6-5. Fund Raising by the Corporate Sector

	1996	%	1997	%	1998	%
Fund Raising	118,769	100.0	118,022	100.0	28,360	100.0
Indirect finance						
Borrowings from DMBs	33,231	28.0	43,375	36.8	-15,003	-52.9
Borrowings from non-banks	16,676	14.0	15,184	12.9	54	0.2
Borrowings from non-banks	16,555	13.9	28,191	23.9	-15,487	-54.6
Direct finance	56,097	47.2	44,087	37.4	49,749	175.4
(Commercial paper)	20,737	17.5	4,421	3.7	-11,678	-41.2
(Stocks)	12,981	10.9	8,974	7.6	13,515	47.7
(Corporate bonds)	21,213	17.9	27,460	23.3	45,907	161.9
Borrowings from abroad	12,383	10.4	6,563	5.6	-10,196	-36.0
Others (trade credits, borrowing from governments, etc.)	17,058	14.4	23,997	20.3	3,810	13.4

Source: Bank of Korea, Flows of Funds, 1999

the troubles Korea faced in 1997, the number of new licenses issued to merchant banking corporations was an important factor. In 1993 there were just 6 merchant banks. By 1996 this number increased to 30 as a result of deregulation on financial transactions. In principle, merchant banks were supervised by the Ministry of Finance and Economy, but this was minimal as there was no asset classification, capital, or provisioning rules [IMF, 1999]. Besides, most of them were owned by cheabols and were used to finance activities within a group. To attract funds, merchant banks, for example, were offering cash management accounts to their customers (within these accounts, apart from getting checkbooks and credit cards, banks' clients were able to raise loans). Banks were mainly investing in short-term commercial papers and notes.

The contribution of non-banking financial institutions, and merchant banks in particular, in financing investments of corporations was significant. Lax regulations let banks provide loans and guarantees of up to 50 percent of their capital. Additionally, the practice of cross-guarantees was common, where affiliates merchant banks were financing activities of other firms from the same business group. Conflict of interest between these two resulted in banks' failure to monitor the performance of their debtors [OECD, 1998]. This problem in economic literature is known as an adverse selection, the situation where lenders have an incomplete knowledge of the creditworthiness/ quality of borrowers.

### 6.3.2. Capital Account Liberalization

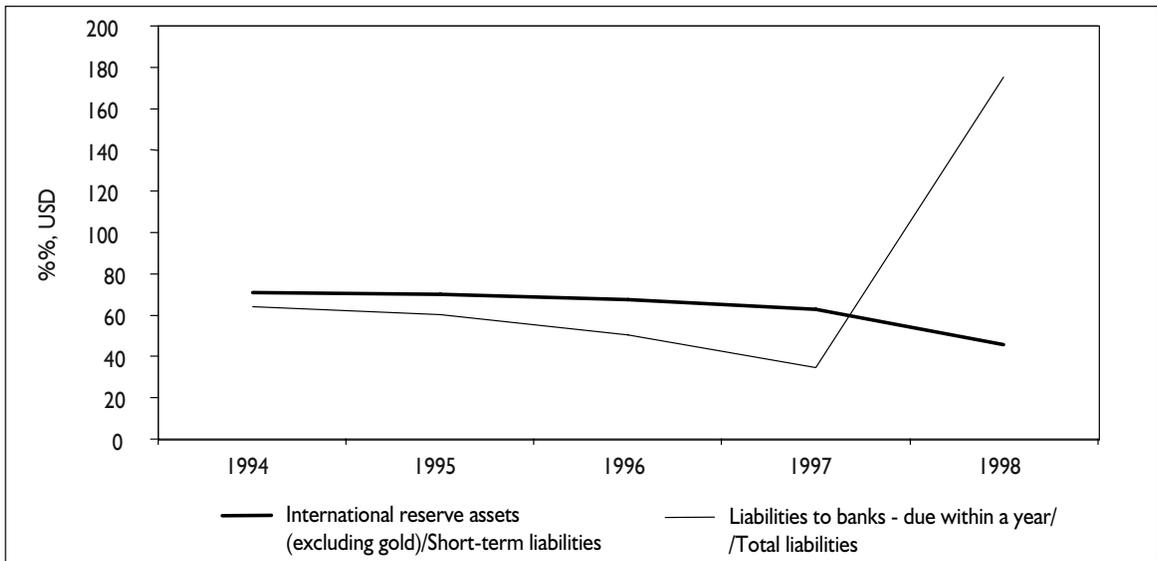
Alongside financial liberalization, the capital account was also progressively liberalized. Deregulation of foreign exchange capital account transactions led to the expan-

sion of foreign branches of Korean banks. Between 1994 and 1996, Korean banks opened 28 foreign branches in addition to 24 financial companies which were allowed to engage in foreign exchange business upon the conversion into merchant banks described above. In accordance with the design program, the short-term capital movements were liberalized in advance of long-term ones. Regardless of the increasing list of industries open to foreign direct investments (FDIs), they were still subject to tight restrictions of unclear form. Very often they were denied because they could "disrupt the market" in the situation of surge short-term flows. In 1993, limits on the long-term foreign-currency denominated loans were relaxed, but the long-term borrowing remained restricted. This decision led Korean banks to borrow funds from abroad for the short-term and lend these funds to domestic companies for the long-term. It created a serious maturity mismatch where banks became prone to shocks such as an increase in interest rates. In this case, the burden imposed in the end of 1997 was a natural consequence of their net worth reduction. This is because, by definition, higher interest rates increase value of banks' long-term assets more than lowering short-term liabilities.

According to the BIS-IMF-World Bank's statistics, liabilities to banks – due within the year – oscillated between 63 and 70 percent of total external liabilities in 1994–96. The situation looked even more precarious in terms of international reserves accumulated. By the end of 1997, total reserve assets only covered 38% of short-term external liabilities.

The external financial liberalization, which led to the accumulation of short-term liabilities, exposed the Korean banking sector to problems like liquidity tightening, when some adverse news about the market caused sharp investor reactions. Firstly, when in 1997 investors

Figure 6-7. External debt



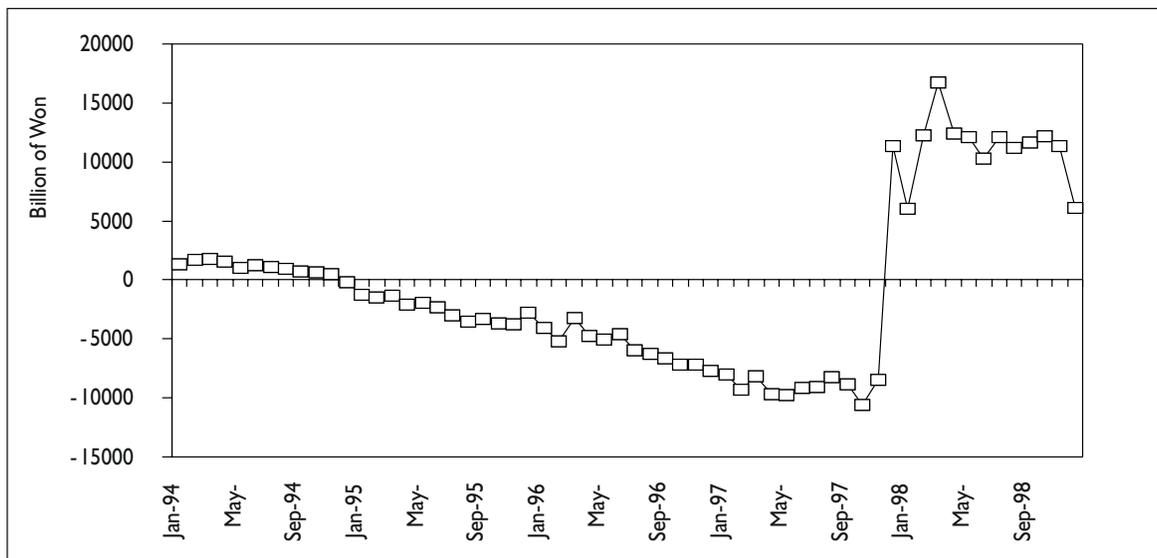
Source: BIS-IMF-World Bank joint statistics, BIS web site

stopped believing in the capacity of the government to bail out falling companies, banks and NBFIs, they rushed to pull their money out of the country. Secondly, the existing currency mismatch (Korean banks' foreign liabilities were excessive to domestic assets) limited the ability to convert domestic currency into foreign currency. Thirdly, when the won/ dollar exchange rate started to depreciate, short-term foreign currency obligations of banks and non-banking financial institutions as a share of domestic assets

increased significantly. The lack of liquidity of Korean banks was also clear by international standards. On average, between 1995 and 1997, the ratio of liquid assets to liquid liabilities (a three months period is considered to be "liquid") was 60 percent in comparison to 100 – an international standard [Nam et al. 1998].

It is also important to note that even though the total external debt as a ratio of GNP increased from 13 to 22 percent between 1990 and 1996, it was not as large as in

Figure 6-8. Net foreign assets

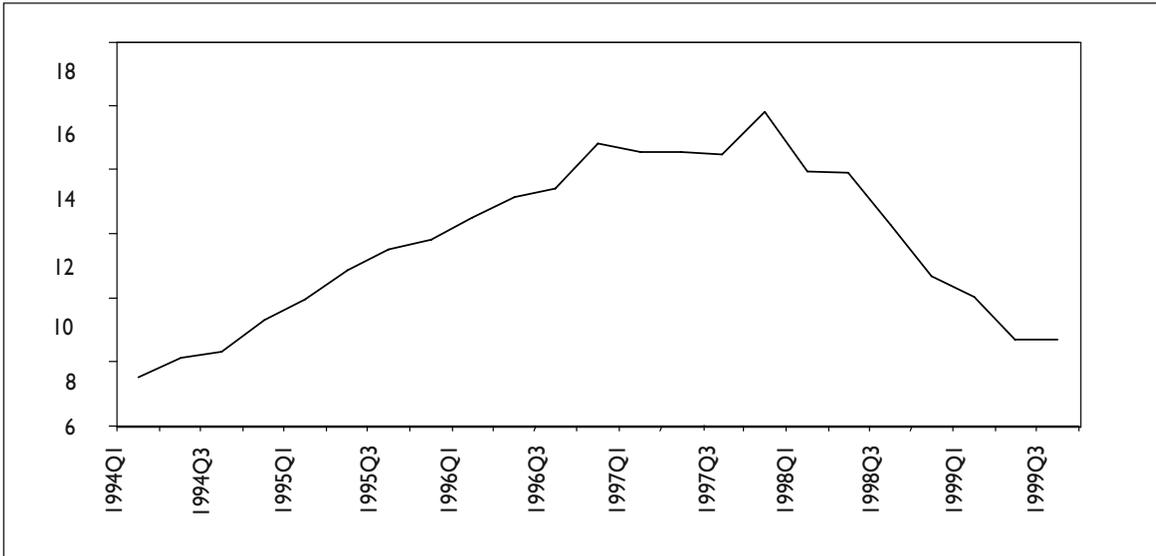


Source: IMF IFS

**Table 6-5. Liquidity ratio of the 10 largest Korean banks**

	1995	1996	March 1997	September 1997
80-90%	1	3	2	2
70-80%	2	2	1	1
60-70%	4	2	4	5
Below 60%	3	3	3	2

Source: Shin and Hahn (1998) cited in Nam et al. (1998)

**Figure 6-9. Currency mismatch\***

Source: \*Foreign liabilities over domestic assets, deposit money banks  
Source: IMF, IFS; own calculation

other Asia and Latin America countries [8]. In 1996 the ratios for the Philippines and Thailand were 54 and 46 percent, respectively. For Mexico, prior to the 1994 crisis, it was 35 percent [Park et al, 1998]. The same conclusion is drawn from other indicators. The percentage share of foreign liabilities in total liabilities of the banking system was about 13 percent in 1996–97 for Korea, whereas in Indonesia averaged around 25 percent at that time. In Argentina on the other hand, it surged up to 20 percent in 1997 (IMF, IFS). There were two facts that seemed to be more important than the overall magnitude of external debt. One was its increasing trend since the early 1990's; another was associated with the high exposure of the banking system to short-term foreign borrowing discussed above.

Progressive capital account liberalization also covered a higher ceiling on stock investments for non-residents, with the aggregate ceiling of 26 percent and individual ceiling of

7 percent by November 1997. Others included borrowing from international bond markets by Korean companies with prior notification, foreign purchasing of certain types of bonds or non-guaranteed corporate and SME bonds [IMF, 1998]. But despite of liberalization of capital account transactions some restrictions remained (see Appendix 2).

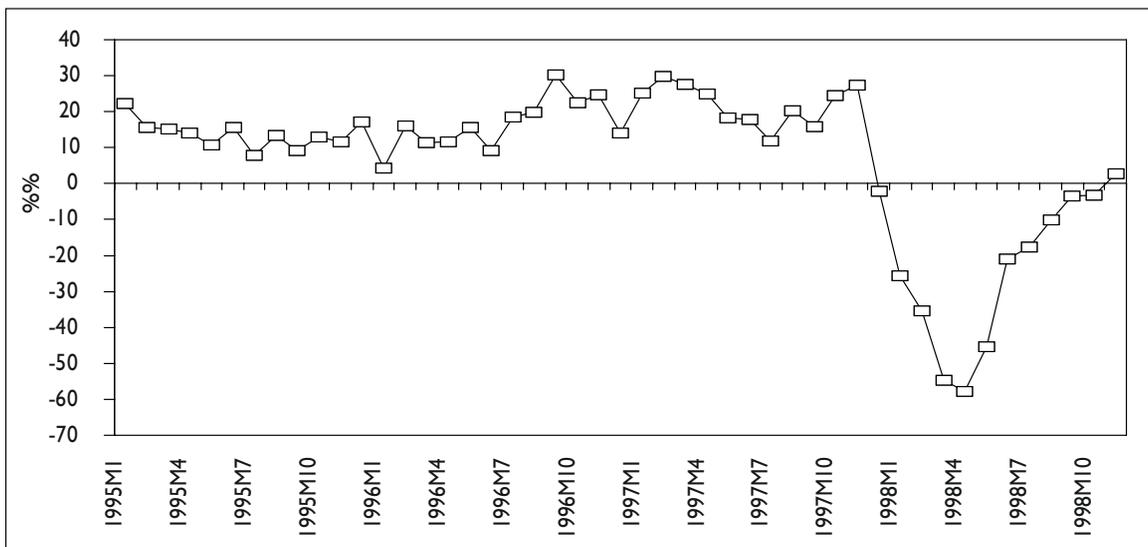
### 6.3.3. Credit Expansion

The industrialization strategy implemented in Korea fuelled by the financial system liberalization resulted in domestic credit expansion. Furthermore, the surge in banking borrowing was typified by five important characteristics (all key for the future of the banking system):

- Credit, in the most part, was extended to the private sector to finance new investments; public sector borrowing played a minor role,

[8] This data does not include offshore borrowing of domestic financial institutions, overseas borrowing of foreign branches of domestic financial institutions and borrowing of overseas branches of domestic enterprises. When these are incorporated, the total external debt jumps from 121 to 170 billion of dollars at the end of 1997 [Park et al, 1998].

Figure 6-10. Net domestic credit (annual percentage changes)



Source: IMF, IFS

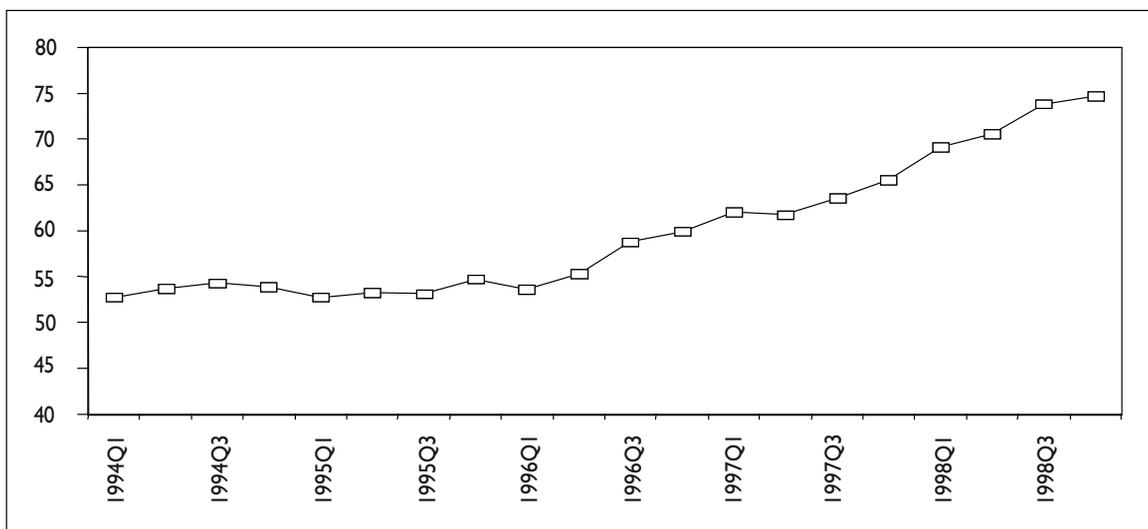
- Explicitly, it indicated a falling quality of loans and amplified the probability of accelerating non-performing loans,
- Borrowing, for the most part, was short-term and foreign currency dominated,
- Non-banking financial institutions were the major intermediaries of funds,
- Expansion of overseas branches of domestic financial institution resulted in the situation where 70 percent of total debt accounted for the banking sector, direct finance played a minor role [Dooley et al. 1999].

Bank credit grew more than 20 percent per annum in 1996 and 1997. Moreover, the ratio of bank credit to GDP

was also increasing at a very high pace. The fact that loans were invested in the risky business of low profitability and declining rates of return (the discussion on efficiency of investments and profitability of the corporate sector was carried out in the previous section) led many of them to become non-performing, putting an extraordinary burden on the banking sector.

Alongside the domestic credit growth, total claims on the private sector were also increasing. Between 1994 and the first quarter of 1996, total claims of deposits in banks as a percentage of GDP was averaging around 55 percent of GDP. From the second quarter on, it was sys-

Figure 6-11. Claims on the private sector



Source: IMF, IFS

tematically growing, reaching 65 percent at the onset of the crisis.

#### 6.3.4. Risk Assessment in the Banking System

The sharp increase in bank lending – fuelled by very lax provisioning rules and insufficient risk assessment – was mirrored by the growing number of non-performing loans (NPLs) in Korea. The fact that there were no regular reports did not permit an adequate assessment of the health of the banking sector. The depth of the problem is clear when the data on non-performing loans as a percentage of total loans from 1996 is compared with the revised data for the same time period. The 1996 number for NPLs as a percentage of total loans states for 0.8 percent, whereas the revised one for 4.1 percent. Partially, this discrepancy is connected with the classification of substandard loans in Korea, partially with the lack of regular reports already pointed. Usually, loans being three months plus in arrears are considered as substandard. But in the Korean Republic, this rule was extended to six months plus. Compulsory provisioning imposed on these loans varied from 20 to 75 percent, although this depended on the types of collateral and guarantees. In many cases, only bad loans (NPLs not covered by collateral) were reported as non-performing. The transmission mechanism between the banks, non-banking financial institutions and Korean corporations led to the presumption that the real number of compulsory provisioning was closer to the lower bounder – or was even below it. Adding to this story the number of corporate and banking bankruptcies in the end of 1997 and the beginning of 1998, it is obvious that Korean banks failed to adequately assess credit risk.

The economy experienced troubles also in terms of solvency indicators of the banking sector. The capital adequacy ratio based on the Basle Core Principle requires a minimum ratio of eight. Yet, the domestic regulation was looser and required only four percent. In 1996 the actual capital adequacy ratio in Korea was just 9.1 percent representing a 2-percentage point drop from the 1993 value [9]. In Thailand and Hong Kong, meanwhile, it was equal to 11.3 and 17.5 percent respectively. There were other factors like soft accounting rules, which gave the authorities the room to manipulate the capital adequacy ratio. The growing merchant banks' off-balance sheet credit guarantees were alarming prior to the crisis. In 1996, off-balance sheet credit guarantees were 49.3 percent expressed in ratio to total assets. It was higher by 12.5 percentage points than the 1993 average. For commercial banks the number was smaller and equal to 8 percent (the 1.2 percentage points drop

from 1995). This piece of evidence points on the immense role the merchant banks played in the debt-financed growth strategy in Korea.

Of course Korean banks had some prudential regulations to limit the probability of financial difficulties, but they were not successful in preventing excessive risk taking. For example, in 1996, in order to prevent excessive risk-taking, Korean banks had constraints on foreign currency exposure. The sum of long positions as a percentage of total capital was limited to 15; the sum of short positions to 10 percent. The spot short positions were limited to 3 percent of bank capital or to 5 million of USD, whichever was greater. Maximum lending to a single borrower was 15 percent on the total bank capital, the same number as in United States. Nevertheless, the growing currency mismatch in Korea suggests that the imposed limits were relatively flexible and that foreign investors were mostly responsible for the growth of foreign assets of Korean banks.

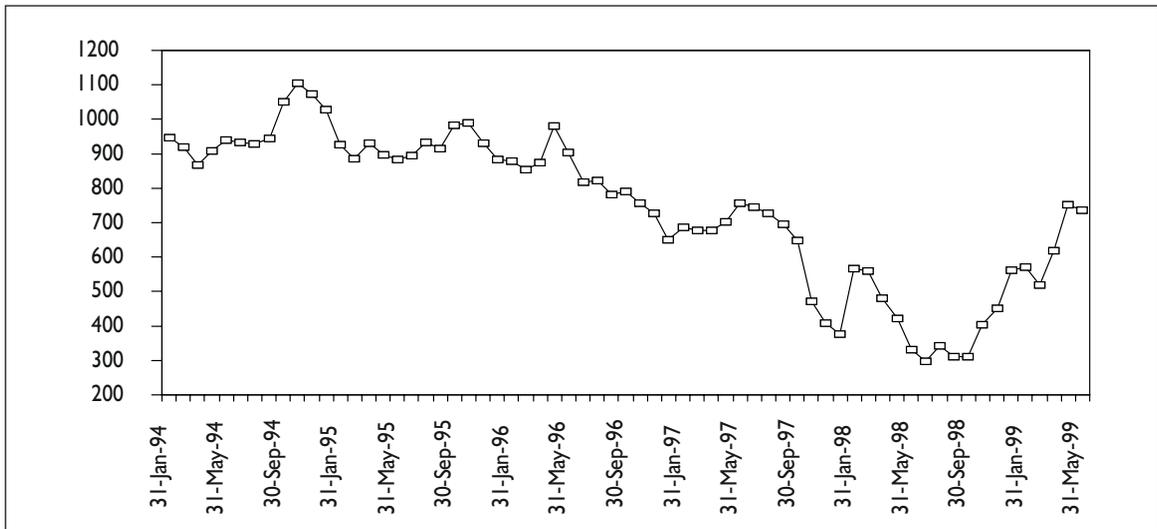
#### 6.4. The Onset of the Crisis

The overview of the financial and corporate sectors' situation preceding the crisis showed that microeconomic distortions in Korean economy were accumulating for quite some time. Even if the crisis was initiated by the subsequent massive and abrupt capital outflow, the fact remains that many other factors contributed to the 1997 crash more than a simple herding. Definitely financial liberalization without adequate regulations imposed, long-lasting governmental control of the financial sector as well as the weak corporate governance were fundamental to the crisis. But apart from structural weaknesses sketched in the previous sections, there were other signs of vulnerabilities building up in the economy and eventually causing the external liquidity crisis:

- the slow down in the GDP growth rate,
- the steady decline in stock price levels, lowering the value of banks and corporate equities and further reducing the value of their net worth,
- the sharp drop in the terms of trade affecting not only Korean export, but also disturbing banks and cheabols' balance sheets. According to Cho (1999) cited in Mishkin, et al (2000), the 20 percent drop in terms of trade accounted for more than 70 percent loss in aggregate corporate profits,
- depreciation of the Japanese yen against the US dollar additionally weakening the country external position,
- financial crashes in neighboring countries.

[9] The capital adequacy ratio for Korea includes commercial banks only and is calculated under the Korean provisioning standards. Soft rules and many exceptions given to non-banking financial institutions would probably further decrease this number.

Figure 6-12. Stock market price index level, year end



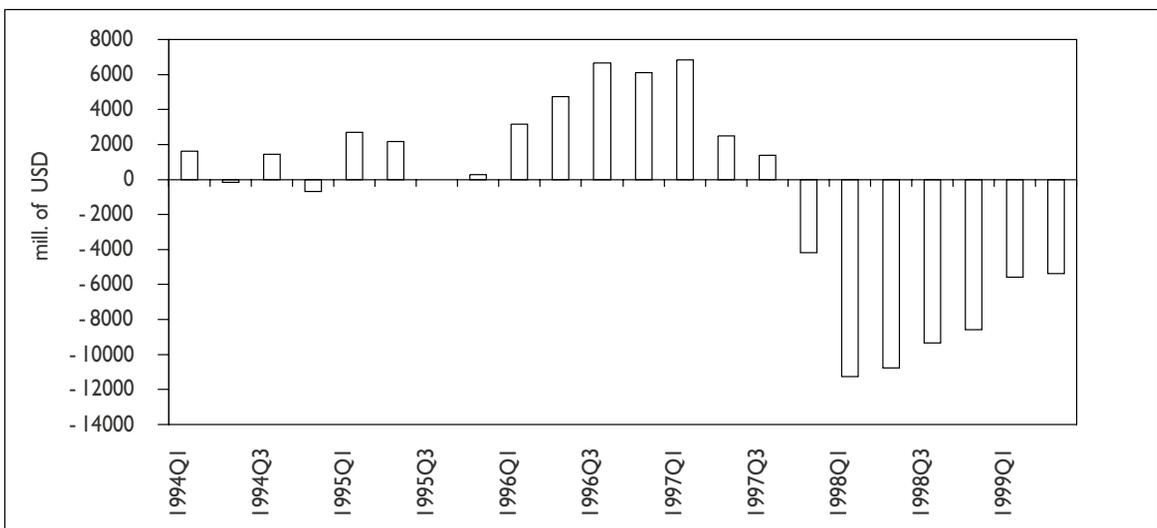
Source: Reuters

Taking into account risks like currency and maturity as well as the risk of default on external debt, it appears that all of these factors, individually and taken together, were responsible for building up pressures in Korea. These pressures finally turned out to be excessive leading the economy into the deep recession.

But even with the clear financial difficulties Korean corporations were facing at the beginning of 1997, foreign investors did not downgrade Korea until the second quarter of the year when capital began to leave the country. The behavior of the exchange rate was, however, different since

the won was losing its value relative to the dollar throughout the whole 1996 (see section one). The stock market index was showing a similar trend to that of the exchange rate. In December 1997 it went down by more than 42 percent on a year-on-year basis. As in Park et al. (1999), foreign investors were evidently distinguishing between sovereign and domestic risks as late as October 1997. The same was true for rating agencies. Although Standard and Poors lowered the credit rating of Korea First Bank on April 18, it was solely based on the fact that this bank was highly exposed to the two collapsing cheabols, Hanbo Group on January and

Figure 6-13. Capital flight



Source: IMF IFS

\*Capital flight was calculated as follows: Capital Flight = (ΔExternal Debt + net FDI) - (CA (surplus) + ΔReserves)

Sammi Steel on March. The sovereign credit rating was still set at AA- level and did not decline until October.

As in many other events of financial (banking) crises, it is extremely difficult to assess which model would be the most suitable one for Korea. The scenario of speculative attacks due to expected currency depreciation couldn't facilitate the run on Korea simply because the existence of tight regulations on currency forwards backed by corresponding current account transactions and the absence of currency futures market made this framework impossible [Mishkin, et al, 2000]. It was rather a consequence of creditors' herding behavior to withdraw their loans. The fact that Korea had a high level of short-term debt and only moderate international reserves favors this scenario. In retrospect however, and regarding the structural weakness of financial and corporate sectors this panic could be judged as rational.

The set of macroeconomic indicators developed to measure the probability of financial crises would blur the true picture about the health of Korean economy. Here the problem is deeper and goes back to the early 1990's when the financial liberalization eased restrictions on short-term capital flows but left long-term ones in force. Together with the government's reluctance to give up its influence in most sectors of the economy, a series of bankruptcies of corporations undermined investors' confidence in the quality of their assets. Thus, the Korean crisis was a result of interactions between financial and corporate sectors which failed to set prudential governance rules. The role the government played in calming down the market was also of considerable importance since the policy was misdirected and instead of ceasing, it fuelled the crisis. The harsh tone and desperate announcements concerning good prospects of the economy gave a warning sign to investors. The fact that the authorities were bailing out collapsing corporations and banks raised doubts about the solvency of the whole economy. When the government announced the stock of official reserves at the end of November, the market confidence about the magnitude of usable foreign reserves was undermined and caused a further decline in the stock market index (regarding the course of events in Korea at the end of the 1997, see the overview of the chronology of selected news from the financial markets presented in Appendix 3).

## 6.5. The 1998 Recession and 1999 Recovery

### 6.5.1. The IMF Intervention in Asia

On November 20, 1997 the exchange rate band was widened from 2.5 to 10 percent. The day after, the government asked the International Monetary Fund to lend

support. On December 4, the IMF's Executive Board approved a Stand-By Arrangement with Korea of \$21 billion over the next three years based on the assumption of the GDP growth in 1998 of 2.5 percent. The World Bank and the Asian Development Bank provided an additional \$14 billion as well as technical assistance. Individual countries agreed on another \$22 billion as a second line of defense credit. The total sum granted to Korea was equal to \$58.4 billion, but the disbursement of money was based on certain conditions:

1. comprehensive financial sector restructuring with a clear exit policy, strong market and supervisory discipline, and independence of the central bank. Nine merchant banks were suspended; two commercial banks were capitalised by the government; all commercial banks were required to submit plans for recapitalization,

2. the bases for corporate income and VAT widened in order to bear the costs of financial restructuring (fiscal measures were equivalent to about 2 percent of GDP and were consistent with the balance budget target),

3. an end to close the relationships between government, banks and corporations as well as an improvement in accounting (corporate financial statements had to be prepared on the consolidated basis), auditing (certification of external auditor) and disclosure standards,

4. the implementation of trade and capital account liberalization measures (liberalization of FDI's flows and opening money, bond and equity markets to capital inflows),

5. labor market reforms,

6. the publication and dissemination of key economic and financial data (IMF on line service).

Nevertheless, the announcement of the program did not help to stabilize the exchange rate and the usable gross reserves fell to 8.9 billion US dollars at the end of December 1997. In the last quarter of the 1997, net capital outflows were observed (\$24.9 billion compared to \$7 billion of inflows in the corresponding period of 1996). This was greater than the IMF initially expected (the program assumed net outflows of \$11.1 billion in December 1997 and net inflows of \$3.3 billion in 1998). Revision of the program was necessary, but even then it failed to predict the total net capital outflows of \$14.8 billion in 1998.

The IMF prescriptions for crisis management may be a source of concern given the long-term adjustment conditions imposed, but the role of the Korean government is also questionable. As the government was injecting capital to falling companies, investors did not really believe in its commitment to market restructuring. As a result, the exchange rate dropped by 40 percent between December 7 and 14, the stock market declined by 17 percent during December 3–10. It was the sharpest reduction since the beginning of October. As the crisis accelerated, the defense of the won became impossible and the

exchange rate band was abolished on December 16. Eight days later, the IMF-backed program was adjusted, assuming further monetary tightening, speeding up the liberalization of capital and money market, financial sector restructuring as well as trade liberalization. Thanks to these interventions, by the time of the second biweekly review on January 8, some degree of exchange rate stability was achieved. On January 28, 1998 international creditors agreed on a plan to officially roll over the short-term debt of approximately \$24 billion. The agreement was signed in March which reduced Korean short-term debt by \$19 billion from \$61 to \$42 billion in the end of April 1998, and helped to increase the stock of usable foreign reserves.

In a Letter of Intent of February 7, 1998, the macro-economic framework of the plan was revised with the GDP growth forecast of 1 percent for 1998. It also included additional measures to target the fiscal deficit to 1 percent of GDP (from a previous surplus of 2 percent) and further development of financial sector's reforms in order to stabilize short-term debt payments. Given the fragility of the exchange rate, the monetary policy remained tight. Within this program revision, foreign investors gained an increased number of financial instruments available. On the other hand, domestic companies had easier access to foreign capital markets and were expected to introduce a number of measures needed to improve overall corporate transparency (i.e. introduction of external audit committee or outside directors).

On May 2 1998, the Korean authorities updated the second stage of the program – economic restructuring. This time the fiscal deficit for 1998 was set at the level of

2 percent of GDP. Other changes included the introduction of measures to strengthen the social safety net, further easing of restrictions on foreign exchange transactions and foreign ownership of certain assets. Once again, the GDP growth rate forecast for 1998 was changed to minus two percent. Apart from setting a new policy framework, the review also noticed the successful emission of sovereign bonds which, together with the current account surplus and notable capital inflows, increased the stock of usable foreign reserves to \$34.4 billion. Even though the vulnerability of the currency market was mitigated and the interest rate was lowered, monetary policy remained cautious about maintaining the exchange rate stability.

The fact that the won slightly appreciated against the American dollar and was relatively stable (averaging around W 1290 per US dollar comparing to 1500–1800 at the beginning of the year) in the mid-1998, let interest rates to go back to the pre-crisis level. This decision was announced in a Letter of Intent from July 24. To support economic activity and strengthen the social safety net, a supplementary budget was prepared. This time the fiscal deficit of 5 percent of GDP was projected. Output was anticipated to contract to -4 percent. Since the inflation rate moderated, the average rate for 1998 was expected to be 9 percent. The huge drop in imports and the export recovery let the current account to turn into a higher surplus of 10 percent of GDP. In a light of a severe recession, further steps towards corporate and financial sectors restructuring were inevitable. According to Nam et al. (1999), 94 financial institutions were suspended or closed. As the NPLs were growing, the government provided

Figure 6-14. Call rates overnight



Source: IMF IFS

support of 41 billion won (10 percent of GDP) for their disposal as well as for banks' restructuring. In result most of Korean banks achieved capital adequacy ratio between 10 and 13 percent.

An acceleration of the recession was so abrupt that the GDP growth rate was once again corrected to -5 percent in August 1998. A supplementary budget was introduced to increase expenditure needed for restructuring distressed sectors. However, the exchange market stability allowed further reductions in the overnight call rate, from 25 percent at the beginning of the year to 8.5 percent at the end of September. This help disturbed companies and reduced the number of bankruptcies from 3000 to 1400 during the same period [Nam et al., 1999].

### 6.5.2. Macroeconomic Environment after the Crisis

After the eruption of the crisis, Korea moved into a severe recession which was not expected even by the IMF staff. As indicated above, the growth forecasts were revised downward, along with almost all the other restructuring program's elements. The fiscal deficit was also adjusted in order to accommodate weaker economic activity and costs of financial restructuring. High interest rates (reaching 25 percent in January 1998) necessary to achieve exchange rate stabilization imposed a high burden on the real sector. In the first half of 1998, the gross domestic product plunged to -5.3 percent comparing to the year before and declined to 6.7 percent during the whole year. The reduction in output was mostly the result of a sharp reduction in domestic demand. The annual percentage changes in private and public consumption were equal to -9.6 and -0.1, respectively. The gross fixed capital formation dropped by 21 percent, and was probably the most responsible factor of the total output squeeze. Exports had declined by 13 percent, yet the slide in import was sharper and equal 22 percent. This resulted in the current account surplus of 10.9 percent of GDP in 1998. The unemployment rate jumped to 6.3 percent during the 1st half of the year and reached 6.8 percent at the end of the year (during the pre-crisis period it did not exceed 3 percent). The consolidated central government budget was in deficit of 4 percent of GDP comparing to the pre-crisis surplus (the initial IMF program assumed 0.2 percent surplus). The annual CPI inflation in the first quarter of the year reached 8.9 percent, but in the last quarter was down to 3.9 percent, which was lower than before the crisis.

The 1998 recession seemed to be over in 1999 with some signs of stability visible already in the second-half of 1998 which helped to fuel investments. In the third quarter of 1999, gross fixed capital formation increased by 4.8

percent compared to its 1998 level. GDP growth boomed and exceeded 10 percent at the end of 1999 – supported by a monetary and fiscal policy expansion. The fact that short-term interest rates were cut from 23–25 percent to 5 percent significantly diminished the costs of borrowing. Low interest rates also helped banks and cheabols to bear the costs of debt restructuring. The budget deficit was reduced to 3 percent of GDP. The growth in imports reduced the current account surplus to around 6 percent of GDP. The exchange rate was stable oscillating around W1200 per US dollar. Nevertheless, there was a couple of exceptions to this impressive recovery. One of them was an unemployment rate of 6.3 percent, which despite of deceleration was still in a sharp contrast to the pre-crisis average; the other was the collapse of the Daewoo group in the middle of the year.

## 6.6. Conclusions

The financial turmoil which erupted in Korea in 1997 did not really fit into any group of theoretical models of financial crisis existing in the economic literature at that time. It is just recently when researchers tried to develop so-called third generation models with new sets of fundamentals. Broadly speaking, they aggregate macro and microeconomic indicators of economic soundness.

The Korean case is a good example of the great importance of complex reforms once the economy is switching from the centralized to market governance. The healthy macroeconomic background is a prerequisite, but the high rates of growth, on their own, are not a safeguard of the long-lasting economic success.

In the Korean Republic, highly leveraged cheabols were vulnerable to shocks like a collapse in investor confidence. Inadequate liberalization instead of hosting long-term capital welcomed short-term inflows. Additionally, and even more importantly, cheabols were not efficient and facilitated family connections. Tight relationships among cheabols, banks and the government made the transparency of financial and corporate sectors virtually impossible. Even if, on average, the prudential rules on banks in Korea were similar to those in western countries, existing exceptions created a scope for choosing the "regain strategy". The number of financial instruments available increased once the financial sector was liberalized, and made the government attempt to control the stock of foreign capital ineffective.

In the last Letter of Intent dated August 13, 2000 which finished the IMF intervention in Korea, the members of the IMF Executive Board stressed the impressive Korean rebound from the 1997 crisis. They said it was possible due to "supportive macroeconomic policies and

the competitive exchange rate; a wide range of structural reforms that addressed the weaknesses that contributed to the 1997 crisis and increased market orientation; a favorable external environment; and an improvement in confidence resulting from both the implementation of strong economic policies and the recovery and build-up in foreign exchange reserves".

Despite the changes however, there is still a lot to be done especially in the area of structural reforms. In the special joint report the IMF and Korean Government agreed on major policies regarding further financial and corporate sectors restructuring in Korea. They identified at least a few problems, which despite the progress made in both sectors need to be solved. Bearing in mind all the reasons for the financial crisis in Korea, a number of them are key. Ongoing policy plans of the financial sector include the following measures:

- while still being the owner of some commercial banks the government will let banks to operate on a fully commercial basis and will not be involved in the day-to-day management,

- public funds should be only used to the extent necessary to facilitate the liquidation of failed institutions and restructuring of weak but viable banks,

- financial transactions between affiliated companies or between institutions and their shareholders are confined to transactions in assets for which market price exist,

- all related party transactions will be disclosed in audited accounts and reported to FSC,

- exposures of commercial banks, merchant banks, specialized and development banks in excess of the new 20 percent or 25 percent limits will be subject to progressive reduction.

Further corporate sector restructuring consists of preparation of the consolidated statements assessing the overall financial structure as well as Daewoo resolution. Others encompass further improvements in financial transparency and accountability (Financial Supervisory Service) [10].

In spite of all this, the latest news from Seoul is not optimistic. The unsuccessful auction of Daewoo group undermined investor confidence and was immediately mirrored in the stock market decline. Additionally, the scale of corporate indebtedness before the crisis was so great that two years time after the crisis South Korea's conglomerates are still unable to overcome it. The progress towards reducing bad loans has not been observed yet; the target of cutting the debt-to-equity ratio in the end of 1999 to 200 percent was not achieved.

This begs the question about the efficiency and the

speed of reforms carried out in the country. Indeed, one can question the IMF restructuring program applied in Korea, which failed to foresee the deepness of the crisis and caused the sharp output downturn, but in the light of current episodes one can also ask if the imposed conditionality was severe enough to bring about 'the second miracle.

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[10] Information about elements of banking system and corporate restructuring during 1998–99 can be found in Appendix 4.

## Appendixes

### Appendix I: 30 Largest Cheabols: April 1996

	Total Assets* (%)	Debt/Equity	Number of Subsidiaries
1.Hyundai	43.7 (6.94)	440	46
2.Samsung	40.8 (6.48)	279	55
3.LG	31.4 (4.99)	345	48
4.Daewoo	31.3 (4.97)	391	25
5.SK	14.6 (2.32)	352	32
6.Ssangyong	13.9 (2.21)	310	23
7.Hanjin	12.2 (1.94)	559	24
8.Kia	11.4 (1.81)	522	16
9.Hanhwa	9.2 (1.46)	712	31
10.Lotte	7.1 (1.13)	191	28
11.Kumho	6.4 (1.02)	480	27
12.Doosan	5.8 (0.92)	907	26
13.Daelim	5.4 (0.86)	424	18
14.Hanbo	5.1 (0.81)	648	21
15.Dongah	5.1 (0.81)	362	16
16.Halla	4.8 (0.76)	2457	17
17.Hyosung	3.6 (0.57)	362	16
18.Dongkuk	3.4 (0.54)	223	16
19.Jinro	3.3 (0.52)	4836	14
20.Kolon	3.1 (0.49)	340	19
21.Tongyang	3.0 (0.48)	305	22
22.Hansol	3.0 (0.48)	291	19
23.Dongbu	2.9 (0.46)	219	24
24.Kohap	2.9 (0.46)	603	11
25.Haitai	2.9 (0.46)	669	14
26.Sammi	2.5 (0.40)	3333	8
27.Hanil	2.2 (0.35)	581	8
28.Keukdong	2.2 (0.35)	516	11
29.New Core	2.0 (0.32)	1253	18
30.Byucksan	1.9 (0.30)	473	16
<b>Total</b>	<b>286.9 (45.6)</b>		<b>669</b>

\*Figures in parentheses are the share of total assets of the corporate sector in Korea (629.8 trillion won as of the end of 1996).  
Source: Dongchul Cho and Kiseok Hong (1999).

## Appendix 2: Foreign Capital Controls in Korea, June 1996

	Outflows			Inflows	
	<i>Purchases abroad by residents</i>	<i>Sales or issues locally by non-residents</i>	<i>Purchases in the country by non-residents</i>	<i>Sales or issues abroad by residents</i>	
Capital market securities and money market instruments (MMI)	Permitted freely in case of securities.	Prior approval required to issue; the sale of securities permitted, but approval required for MMIs.	Maximum foreign equity holdings in listed companies 18 percent; approval required for MMIs with the exception of approved institutional investors.	Issue of won-denominated securities subject to prior approval; otherwise reporting requirement only.	
Credit operations	Commercial credits			Financial credits	
	<i>By residents to non-residents</i>	<i>To residents from non-residents</i>	<i>By residents to non-residents</i>	<i>To residents from non-residents</i>	
	No restrictions deferred-receipt of exports if under 3 years.	No restrictions with exceptions.	Prior approval required.	Authorisation required, except for selected enterprises.	
Bank related transactions	Loan transactions			Deposits accounts	
	<i>Borrowing abroad</i>	<i>Lending to non-residents</i>	<i>Lending locally in foreign currency</i>	<i>Residents' foreign exchange accounts abroad</i>	<i>Non-residents domestic currency accounts</i>
	Reporting requirements for loans with maturities above one year if funds exceed a given amount	Prior notification if loans exceed a given amount, otherwise ex post notification or freely permitted for loans below a given amount	Loan ceilings according to economic sector.	Permitted up to a certain ceiling for corporations and individuals; no restriction for institutional investors.	Permitted for the purpose of converting funds into foreign currency and transferring them abroad.

Source: Blondal and Christiansen (1999)

### Appendix 3: Chronology of the Korean Crisis, 1997

World Bank, ADB and individual government loans constituted \$58 billion.

– In January 1997, the 14th largest conglomerate Hanbo Steel Co. went bankrupt. The long-term rating of three Korean banks with the high exposure to Hanbo was lowered. Yet, the sovereign risk for Korea did not deteriorate, indicated the clear separation of the sovereign rating and rating related to the private financial institutions' problem,

– Between March and April there were further defaults including those of the top thirty chebols including Sammi Steel on March 19 and Jinro Group on April 21. In spite of that, there were no signs of broader problems,

– In July the Kia Motors asked its creditors for the work-out agreement on its debt of \$8 billion to avoid receivership,

– In August, in spite of the intervention, the National Bank of Korea was not able to defend the exchange rate at the level of W 900 per US dollar. At the same time the government announced its readiness to guarantee foreign currency liabilities of Korea's financial institutions. This materialized on the October 14, when the government injected with money Korea First Bank and some other merchant banks,

– At the beginning of October, various credit rating agencies downgraded Korea (S&P, Euromoney, Moody), because of the governmental decisions to rescue Korea First Bank and undertake Kia Motors,

– On October 27, Bloomberg said the free fall of Korean won raised the concern the country would need the IMF assistance, but the government denied it,

– On October 29, to attract foreign investors Korean newspapers announced the bond market would be opened from 1998. Nonetheless, it did not prevent the currency from further depreciation,

– On October 30, the foreign press suspected that the Bank of Korea official reserves of 30 billion dollars did not include dollars borrowed through forward market transactions as the Korean government ordered banks to stop saving dollars,

– November 8, government accused foreign press of making unjustified rumours about Korea and asked to stop to destabilize the market. Ironically, investors seemed not to believe this statement,

– November 18, Bank of Korea made emergency loans to 5 major commercial banks worth \$1 billion, however still denied it would need the IMF assistance,

– November 20, the band was widened from 2.5 to 10 percent daily,

– November 21, the Minister of Finance and the Economy announced it would ask a rescue package from the IMF,

– December 4, IMF Executive Board approved a \$21 billion stand-by credit for Korea which together with the

## Appendix 4: Banking System and Corporate Restructuring

### Banking System Restructuring

In the banking sector, a credit crunch resulted from higher interest rates that increased the stock of non-performing loans (net domestic credit of the banking system dropped by 50 percent on the annual basis). At the end of March 1998, the ratio of loans being three months plus in arrears to total loans was 16.9 percent for banks and 14.5 percent for all financial institutions (Sang- Loh Kim; 1998). In order to deal with this problem, in April 1998 an independent supervisory authority was established to apply international prudential standards. Additionally, to help banks resolving bad loans government committed W32.5 trillion to the NPLs' Resolution Fund and planned to resolve W100 trillion of bad loans via auctions, capital increase or subordinated bond issues. Five banks were shut down as well as 16 merchant banks in 1998. The Korea First Bank and the Seoul Bank had been nationalized after they repealed 87.5 percent of their stock.

The Financial Supervisory Commission (FSC) set a minimum target for capital adequacy ratios according with the BIS standard for banks and merchant banking corporations to be achieved by the end of 2000. Together with the Ministry of Finance measures on improving the disclosure, accounting and accounting standards were introduced (accounting of securities was going to be based on the market instead of the book value). Starting from July 1, loans of at least three months in arrears but less than 6 months were categorized as non-performing. Prompt corrective action system was introduced imposing recommendations, measures and orders on the unsound financial institutions (i.e. banks with the capital adequacy ratio lower than 8 percent minimum).

### Corporate Restructuring

Corporate restructuring in Korea proceeded on two separate tracks. One was a debt workout for the smaller cheabols and other large corporations; the other included a package for the top five cheabols. Reform bills were passed by the National Assembly in February 1998 and among others included:

- Tax Exemption and Reduction Control Act – tax breaks for company restructuring were provided,
- Bank Act – the limit on bank ownership of a corporation's equity increased from 10 to 15 percent, or higher with Financial Supervisory Commission (FSC) approval,
- Corporation Tax Act – non-deductibility of interest on "excessive" debt was moved from 2002 to 2000,

– Foreign Direct Investment and Foreign Capital Inducement Act – takeovers of non-strategic companies by foreign investors without government approval were allowed. Foreign investors could acquire 33 percent of shares without board approval (23 percent increase compared to the pre-crisis limit),

– Antitrust and Fair Trade Act – new cross guarantees were prohibited. Elimination of existed cross guarantees was planned by March 2000,

– Financial Supervisory Committee maintained relatively lax rules on accounting for restructured debt in order to help Korean banks to negotiate substantial rate reductions and conversions of debt into equity or low-yield convertible bonds [Mako, 1999].

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## Comments to Papers on Asian Crises by Jerzy Pruski\*

The comparison of the four papers on the 1997–1998 financial crises in Asia clearly indicates that Korea, Thailand, Malaysia and Indonesia fall in the group of relatively homogenous economies.

1. After the Second World War, all these countries were characterized as under-developed economies. They managed to change this situation due to very high rates of economic activity accompanied by very high investment and saving rates. The civilization leap might not have been achieved without the prominent role of the state. As the years passed, government interference in economic life gradually diminished but still remains relatively strong. In a market economy, the government used to significantly influence the investment allocation and consequently determine the development of the selected branches of economy. Therefore, it had to target the specific financial instruments in order to push the private sector into the preferred area of economic activity. As a result, the Asian economies are characterized by strong interdependence of the private sector and government spheres.

2. The aspiration for high and sustainable rates of economic growth forced all the countries to liberalize their domestic financial markets. As a result of financial market liberalization, accompanied by weak regulation, the newly established financial intermediaries engaged excessively in financing projects characterized by high branch and credit concentration. Then the Asian countries became increasingly aware about the high costs of not participating in globalization of the world economy. Due to very specific and structural reasons, they liberalized short-term capital flows far before liberalization of FDI and long-term capital flows. The method of liberalization of both the financial markets and capital accounts significantly contributed to the scope and intensity of the Asian crisis.

3. The extreme state interference in economic life caused excessive concentration of market power and own-

ership. The powerful, family-owned conglomerates were characterized by unbelievably high rates of economic expansion accompanied by insufficient improvement in productivity. The low economic efficiency was caused by a number of factors. The most important is the imperfect organizational structure (e.g. in Korea – the role played by chairman office), weak corporate governance, excessive output diversification (preventing conglomerates from effective competition in a few carefully chosen branches) and growing domestic and foreign competition. Moreover, the Asian countries experienced a relatively slow process of democratization. With high ownership concentration, intensive state interference in economic life and young democratic institutions, the countries exhibited poor transparency of public finance and government relationships with private sector.

4. The strong desire to preserve the existing structure of ownership led conglomerates to finance their rapid expansion through credits from financial markets with a negligible role played by capital markets. In the presence of weak financial regulation and high rates of economic growth, such a practice was responsible for conglomerates' uncontrolled indebtedness on the domestic market and excessive credit risk concentration in the financial sector. Moreover, liberalization of the capital account allowed firms to incur new debts on international financial markets and continue their economic expansion. Many companies financed their activity as if they didn't face hard budget constraint. As a result, the share of FDI and long-term investments in total foreign debt was small but the ratio of debt to equity and ratio of short-term foreign debt to foreign official reserves reached high and unsustainable levels.

5. Imperfect and opaque markets emerged as a result of the state interference in the economy and high concentration of private ownership. Under such conditions, investors (especially foreign ones) couldn't obtain all the necessary information for a correct risk assessment. Moreover, there

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is some evidence that even the conglomerates were unable, at least to some extent, to assess the total risk of their rapid expansion.

6. The analysis of the main features of the Asian economies leads to the conclusion that ineffective micro-economic foundations, coupled with opaque markets, and the resulting asymmetry of information were responsible for the 1997–1998 financial crises. That line of reasoning is supported by the fact that Korea, Malaysia, Thailand and Indonesia demonstrated good economic performance in terms of the GDP growth, inflation, unemployment and public finance deficit. The relatively high current account deficits were the only exception to overall positive macro-economic picture.

7. However, in the second half of the 1990's, globalization and higher openness exposed the Asian economies to higher competition, appreciation of local currencies and deterioration of terms of trade. Global markets severely verified the microeconomic efficiency of industrial corporations and financial institutions and, to some extent, improved the transparency of particular markets.

8. The above remarks emphasize the role of structural factors and microeconomic inefficiencies as the main reasons behind the financial crises in Asia. In general, the situation should improve, due to deep structural and institutional reforms. However, the positive effects of supply-side reforms usually require long time. But it is known that the Asian countries recovered from crisis quickly and since then their economies have performed surprisingly well. Economists have explained many aspects of financial crisis, but no doubt there is still enormous scope for additional research work.